

FROM YOUR BANK STATEMENT

\$ 19.95

WHAT IS YOUR OPENING BALANCE ? 0
WHAT IS YOUR CLOSING BALANCE ? 88.83
WHAT IS THE DATE (IE: 10/23/77) ? 10/23/77

BASIC

CHECKBOOK BALANCING

SOFTWARE

LIBRARY

VOLUME VIII

HOMEOWNERS

PROGRAMS

by **R. W. BROWN**

Checkbook Balancing Form:

DATE _____

TOTAL AMT. OF CHECKS WRITTEN TO DATE = \$ 472.07
NUMBER WRITTEN TO DATE = 11

TOTAL DEPOSITS MADE TO DATE = \$ 540.00
NUMBER OF DEPOSITS MADE TO DATE = 19

TOTAL NUMBER OF CHECKS CLEARED = 340.00
DATE = 57622

OPENING BALANCE = \$ 0.00

TOTAL BALANCE = \$ 1.50

Other (for examples):

- Positive = \$ 7.16
- Negative = \$ 256.84
- Other = \$ 215.23
- Other = \$ 88.83
- Other = \$ 38.82

Final Totals:

- 2707 - FULLY ***
- 180 -
- 0 -
- 180 -
- 100 -
- 80 -
- 72 -
- 305 -
- 377 -

Form Instructions:

22 Other than (see page 16 of Instructions for required statement)

23 Carryover from prior years

24 Total contributions (add lines 21a through 23). Enter here and on line 36

Casualty or Theft Loss(es) (See page 16 of Instructions)

25 Loss before insurance reimbursement

26 Insurance reimbursement

27 Subtract line 26 from line 25. Enter difference (if less than zero, enter zero)

28 Enter \$100 or amount on line 27, whichever is smaller

Casualty or theft loss (subtract line 28 from line 27). Enter here and on line 37

Miscellaneous Deductions (See page 16 of Instructions)

30 Union dues

31 Other (itemize)

Form Labels:

- A&B—Itemize Interest
- Attach
- Form 1040
- Schedule L
- Schedule C
- and Dental Expenses (not otherwise) (See page 14 of instructions) (but not more than \$1500 net premiums for medical insurance to include in line 10 below)
- Enter 1% of line 31, Form 1040
- Subtract line 3 from line 2. Enter difference (if less than zero, enter zero)
- Enter balance of insurance premiums for medical care not entered on line 1
- Enter other medical and dental expenses:
 - Doctors, dentists, nurses, etc.
 - Hospitals
 - Other (itemize—include hearing aids, dentures, eyeglasses, transportation, etc.)
- Lines 4 through 6c
- Form 1040
- less than

BASIC

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VOLUME VIII

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PROGRAMS

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INTRODUCTION

The programs presented here are set out for the individual who has a specific need in mind. Because a detailed discussion of these programs would require a text several times the present size of this Library it has been omitted. Individuals who have a specific requirement will have to be at least knowledgeable in the area the program is written about; ie: Statistical programs require the user to be familiar with the terms mean, median, etc. This is because the programs are written in the vernacular of their subject matter. With this knowledge alone, no programming experience on the part of the user is required in order to use any of these programs in most systems. Once it is determined that a particular program may be useful the user merely types in a copy of the BASIC source code exactly as it appears in the program listing. Then follow the instructions for running the program as presented in the Instruction portion of the write up, immediately preceding the program. Also included in the write ups are statements that appear in the source code which may possibly need to be changed to run in the user's computer system; ie: RND statements may have to be changed to FRAND in order to compile in certain systems.

PUBLISHERS NOTE: Appendix B included at the end of Volume V was not mentioned in the preface by the author. We feel this appendix is the most important single item included in this library. We see this appendix as a fore runner that might lead the way toward standardizing a computer language among the manufacturers. This is in addition to the obvious benefits to all users of this Basic Software Library.

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VOLUME ONE

Preface

Part 1 - Business & Personal Bookkeeping Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Bond	Computes price and interest for bond purchases.
Building	Analyzes the cost of building design proposals.
Compound	Computes effective compound interest rates.
Cyclic	Determines seasonal coefficients for two cycles.
Decision 1	Makes a lease/buy decision for you.
Decision 2	Makes a decision on whether to buy a component or make it.
Depreciation	Calculates depreciation by 4 different methods.
Efficient	Cal. the most efficient assignment of resources and/or personnel.
Flow	Predicts your yearly cash flow.
Installment	Performs monthly installment accounting.
Interest	Computes interest accruals, monthly.
Investments	Computes annual rates of return on investments.
Mortgage	Makes a comparison of mortgage terms.
Optimize	Optimizes the layout for a plant, shop, office, etc.
Order	Determines your economic order quantity for inventory items.
Pert Tree	Performs an analysis of a pert network.
Rate	Computes true annual interest rates.
Return 1	Computes lessor's rate of return for uncertain assets.
Return 2	Computes a lessor's rate of return after taxes.
Schedule 1	Schedules N jobs in a shop with M machines.

Part 2 - Games & Pictures

<u>NAME</u>	<u>DESCRIPTION</u>
Animals Four	Teach the computer all about animals.
Astronaut	Land your spaceship on another planet.
Bagel	Advanced number game, numbers may be algebraic, few clues.
Bio Cycle	Calculate your Bio-Life Cycle and plan your days.
Cannons	An advanced war game with big guns.
Checkers	Plays a regulation game of checkers.
Craps	A dice game with hard way odds.
Dogfight	Air fight w/missiles; between a phantom and a mig.
Golf	Plays any number of holes; inc. obstacle course.
Judy	Have a rap session with Judy via your computer.
Line Up	Simple number game, all you have to do is unscramble them.
Pony	Authentic horse race, any number of players.
Roulette	Gamblers delight, plays Las Vegas rules.
Sky Diver	Sky dive on another planet
Tank	A war game between two tanks.
Teach Me	Teach the computer to learn new things.

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VOLUME ONE (CONT.)

PICTURES

<u>NAME</u>	<u>DESCRIPTION</u>
	Introduction
A. Newman	He's absolutely MAD! MAD! MAD!
J.F.K.	Our 35th. president.
Linus	Loveable "Peanuts" character, w/blanket.
Ms. Santa	A modern miss to put a twinkle in your eye.
Nixon	Former "United States" president.
Noel Noel	Christmas or anytime this is a beautiful creation.
Nude	A true work of art for anyone's gallery.
Peace	A message for all seasons.
Policeman	True and blue, he's the law.
Santa's Sleigh	In banner form, perfect for decorating the mantle.
Snoopy	That paragon of Dogdom even plays football.
Virgin	A picture you can read as well as see.

TABLE OF CONTENTS

VOLUME TWO

Part 3 - Math & Engineering Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Beam	Evaluates and selects steel beam sizes.
Conv.	Calculates convolutions.
Filter	Calculates low pass filter components.
Fit	Performs interpolations by spline fits.
Integration 1	Uses Gaussian Quadrature to do integration.
Integration 2	Integrates a function by spline fits.
Intensity	Calc. and plots RF or Acoustic intensities.
Lola	Calc. Long. and Lat. from interstellar fix or distance.
Macro	Simulates a language compiler.
Max. Min.	Calc. the max. & min. values of funct. over a spec. interval.
Navaid	Calc. position from altitude and azimuth of celestial bodies.
Optical	Calculates Blackbody energies, w/filter look-up tables.
Planet	Calculates Sun and Moon positions, hourly.
PSD	Calculates Power Spectral Densities and FFT's.
Rand 1	Generates random numbers between 0 and 1.
Rand 2	Generates random integers between (X) and (Y).
Solve	Solves polynomials by "Bairstows Method".
Sphere Trian	Solves any spherical triangle.
Stars	Locates 50 stars (celestial).
Track	Calc. course and distance and incremental vectors.
Triangle	Solves for all parts of any triangle.
Variable	Finds all variables in Basic programs.
Vector	Calc. final position; given start and motion vectors

TABLE OF CONTENTS

VOLUME TWO (CONT.)

Part 4 - Plotting & Statistics Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Binomial	Calculates binomial probability distributions.
Chi-Sq.	Applies the Chi-Square test to samples.
Coeff	Calc. coefficients of fourier series to apprx. a function.
Confidence 1	Calculates confidence limits on linear regressions.
Confidence 2	Calculates confidence limits for a sample mean.
Correlations	Performs auto and cross correlations with plots.
Curve	Fits 6 different curves by the least squares method.
Differences	Calculates difference of means in non-equal variances.
Dual Plot	Plots two functions on the same sheet.
Exp-Distri	Calculates exponential distributions for a sample.
Least Squares	Performs least squares fit by linear, exp., or power function.
Paired	Compares 2 groups of data using the rank test.
Plot	Plots 6 equations on the same sheet.
Plotpts	Plots data points on standard teletypes.
Polynomial Fit	Performs least squares polynomial fit.
Regression	Performs multiple linear fit with or without transformations.
Stat 1	Finds the mean, variance and standard deviation.
Stat 2	Computes various stat. measures for a variable.
T-Distribution	Calculates normal and T-distributions.
Unpaired	Compares 2 groups of unpaired data.
Variance 1	Performs one way analysis of variances.
Variance 2	Analyzes a variance table of one way random design.
XY	Plots functions of X and Y.

APPENDIX A - BASIC STATEMENT DEFINITIONS

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VOLUME THREE

Part 5 - Advanced Business Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Billing	Performs posting and billing of accounts.
Inventory	Maintains data for inventory records.
Payroll	Computes payrolls with full set of deductions.
Risk	Performs a risk analysis on capital investments.
Schedule 2	Performs the most effi. scheduling of men or resources to loca.
Shipping	Solves the problem of scheduling and assignments.
Stocks	Computes the value of stocks.
Switch	Calculates the effects of a bond switch.

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VOLUME FOUR

General Purpose Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Bingo	An age old favorite. "B9, C23, D4, E13, F21, BINGO!
Bonds	Computes the yields for a bond for different periods.
Bull	If you ever dreamed of being a Matador, here's your chance.
Enterprise	Take charge of the Enterprise while Capt. Kirk is on leave.
Football	Authentic NFL version of this well known sport.
Funds 1	Calculates long-term predictions of funds.
Funds 2	Plots the results of Funds 1.
Go-Moku	Ancient Chinese game of chance.
Jack	Plays Blackjack, Las Vegas style.
Life	Life is truly a battle for survival, a real challenger!
Loans	Calculates annuities, loans and mortgages.
Mazes	Generates unique maze puzzles for you to solve.
Poker	Five card draw - for up to 5 players.
Popul	Performs population projections for defined areas.
Profits	Determines the profitability of a firms various depts.
Qubic	3-Dimensional Tic-Tac-Toe.
Rates	Calc. the effective annual interest rate for stated interest.
Retire	Calculates your Civil Service Retirement benefits.
Savings	Computes savings plan profiles.
SBA	Calculates repayment schedules for SBA loans.
Tic-Tac-Toe	An all time favorite for young and old alike.

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VOLUME FIVE

Experimenter's Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Andy Cap	Draws this famous cartoon character.
Baseball	Plays a full 9 innings of baseball.
Compare	Compares two groups of data.
Confid 10	Determines the confidence limits for a normal population.
Descrip	Provides a description of uni-variant data.
Differ	Computes the diff. of the means for data of equal variance.
Engine	Calculates the otto cycle of engines.
Fourier	This program evaluates fourier series.
Horse	Draws a picture of a horse.
Integers	Computes integers as the sum of other integers.
Logic	Determines conclusions from logic statements.
Playboy	Draws the playboy symbol.
Primes	Factors numbers into their primes.
Probal	Calc. Chi-Sq. and probabilities from 2X2 data sets.

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VOLUME FIVE (CONT.)

Experimenter's Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Quadrac	Solves quadratic equations
Red Baron	Draws a picture of the infamous Red Baron.
Regression 2	Calculates linear regressions.
Road Runner	"Beep! Beep!" Draws a picture of the Road Runner.
Roulette	Computerized "Wheel of Fortune", plays roulette.
Santa	Old Saint Nick appears as jolly as ever.
Stat 10	Calculates quantities for two groups of paired data.
Stat 11	Computes sample statistics.
Steel	Calculates steel beam capacities.
Top	Computes cost for surfacing a road or driveway, etc.
Vary	Performs an analysis of a vari. table; one-way random design.
Xmas	Generates a "SINGING" Christmas card.

APPENDIX B - STATEMENT CONVERSION ALGORITHMS

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VOLUME SIX

A Complete Business System

<u>NAME</u>	<u>DESCRIPTION</u>
Ledger	Maintains ALL Company accounts and generates financial reports. Includes routines for: Pyrl, Inv, Depr, A/R, A/P
ACBS rev:80	Users Manual - A Proprietary Package

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VOLUME SEVEN

Professional Programs

<u>NAME</u>	<u>DESCRIPTION</u>
Chess	Designed to challenge the average player, fairly comprehensive. Great fun for all, offers a unique opportunity for beginners in need of an opponent.
Medbil	For Doctors and Dentists alike, a complete patient billing system which also permits the maintaining of a patient history record.
Wdproc	Wordprocessing for lawyers, publishers, writers etc. Write, store and change from rough draft to final copy in a variety of formats.

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VOLUME SEVEN (CONT.)

Professional Programs

NAME

Utility

Licensing Agreement

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VOLUME EIGHT

PAGE

Home Owners Programs

NAME

DESCRIPTION

1040 - Tax	Taxpayers return, itemized deductions or standard	1203
Balance	Reconciles bank statements	1233
Checkbook	Balances your checkbook	1240
Instlo78	Computes real cost on bank financed items; cars, boats, etc.	1247
Deprec2	Computes depreciation, 4 methods, any time period	1251

APPENDIX C - FAVORITE PROGRAM CONVERSIONS

1255

P R E F A C E

The information contained in these pages represents the culmination of a very large project. That of compiling a versatile and complete Software Library that will be of use to a large number of diverse individuals. The programs presented here when combined in a system will represent a very powerful library bank. Such a work as this has been attempted in the past in such areas as cook books, electronic source books, mathematical tables and even computer games. But to date such a collection as this has yet to be offered to the average individual to use as he chooses. The word "attemped" was used as no work is ever considered complete by everyone regardless of its thoroughness.

The programs presented here were chosen for their uniqueness and general usefulness. There should be at least one program included that will be of use to every type of individual whether they have access to a computer or not. Computers are a wonderful and very useful tool. Through this Library I hope to interest more people into becoming involved with computers. The Library is written so that little or no computer programming experience is required to invoke any of the programs. The programs that are presented here are all written in the computer language called BASIC. Each program has been successfully run on a G.E. 635 computer. The entire source code is presented as well as a short narrative page which defines the program, tells who might be interested in using it, a brief set of instructions or how to get them and then any limitations in the program are noted. In the limitations section the storage length in K Bytes is given so the prospective user will know how much memory to allow for the program. Where possible the amount of memory space required for full execution is given for the programs, this space is independent of the space already occupied by your BASIC compiler.

The programs are broken down into five sections or parts. Each part deals with a specific type of program. Part 1 contains business type programs. These programs will be of interest to individuals who have businesses, play the stock market, balance their own checkbooks, do installment buying, figure taxes, etc. There are a total of 20 programs in this section. Part 2 is the lighter side of the Library as it contains 16 games and 12 picture programs. No computer library is complete without some fun. Among the games presented in this section is one called Checkers. The game is rather long but it is virtually machine independent as it doesn't use overlay techniques or use files. Most of the other games included here are as exciting as this version of Checkers. Each was chosen so as not to mimic others that the reader may have seen. The pictures are as unusual in their own way as are the games. Most of the pictures are spread over several pages, this was done not only so the reader will need to run the program to see the details of a particular picture but also in the hopes of getting as many of these programs into use as possible. As the picture programs are very simple it is an easy place for the novice to start learning about programming.

Part 3 is comprised of Math and Engineering programs. Some of these programs will be of use to high school students, professional people, sailors, engineers, astronomers, airplane pilots, etc. Most of these programs are very

technical but they can perform every day calculations quickly and easily and they are extremely simple to use. There are 23 general usage programs presented in this section.

Part 4 is made up of Plotting and Statistical Analysis programs. These programs can be readily utilized by a number of people in widely different disciplines from fishermen to statisticians. The data gathered may be from a poll, a census, a test sample or even the number of fish caught on various days. The stat programs will be of invaluable aid to anyone who gathers data of any kind. The plotting routines will be of use to most of the people who use the stat programs or programs in Parts 1 and 3. The plotting is done on any standard teletype or terminal and does not require a special plotter or plotting terminal. There are a total of five direct plotting programs and 18 stat programs in this section.

All of the programs presented here may be run by simply typing the source code as listed, exactly as it is, into your computer. Now before the program will run it will have to be converted into machine code. This is done automatically and requires no forethought except to make certain the operating system you are working in is BASIC. In the larger computer systems you are asked what system you want — to this type BASIC; the smaller systems only have BASIC, in these you are O.K.

Immediately following Part 4 is Appendix A. Here, all of the Basic Statements used throughout these pages are defined. Each statement is explained sufficiently well to enable one unfamiliar with this subset to modify any necessary statements so that the program or programs will compile and execute with the Basic compiler or interpreter available with their particular computer. Most of the Basic compilers available today, that require more than 10K Bytes of storage, will execute all of the programs presented in these volumes with the possible exception of a few of the games and the program "Variable". Multiple line statements are not used in most of the programs and only a few programs use string manipulations extensively. A few of the programs may require more on line storage than is available on some of the small micro computer systems; these longer programs will not be executable due to the limited amount of memory. However most of the programs will execute in 10K Bytes of memory or less, thereby making most of the programs in this Library executable in virtually any Basic speaking computer without any required modifications.

Volume III is comprised of ADVANCED BUSINESS programs, part 5. This volume as well as subsequent volumes are intended to make this Library complete and useful to all individuals.

Each of these programs are written in a subset of the Dartmouth language. The specific subset is that which was used by General Electric on their 635 systems. These programs have operated without problem on a variety of small and large machines even several of the new micro computers. The programs that use string manipulations may require slight modifications before fully executing on some systems. These programs are mainly found in Part 2 — Games.

All of the programs in this Library were written or edited by the author. All of the programs edited by him were given for inclusion, "swapped" for traded, or made public. A few of the original authors of the "swaps" are not known, for this I apologize. The others, unless specifically mentioned in the text, are presented here. In addition I would like to thank the following for their cooperation in making this work possible.

ACKNOWLEDGMENTS

MY WIFE MARY AND MY FAMILY

DONALD ALVAREZ

GE TIMESHARING

DAVE BEETLE

BILL JONES

MORTON BERGER

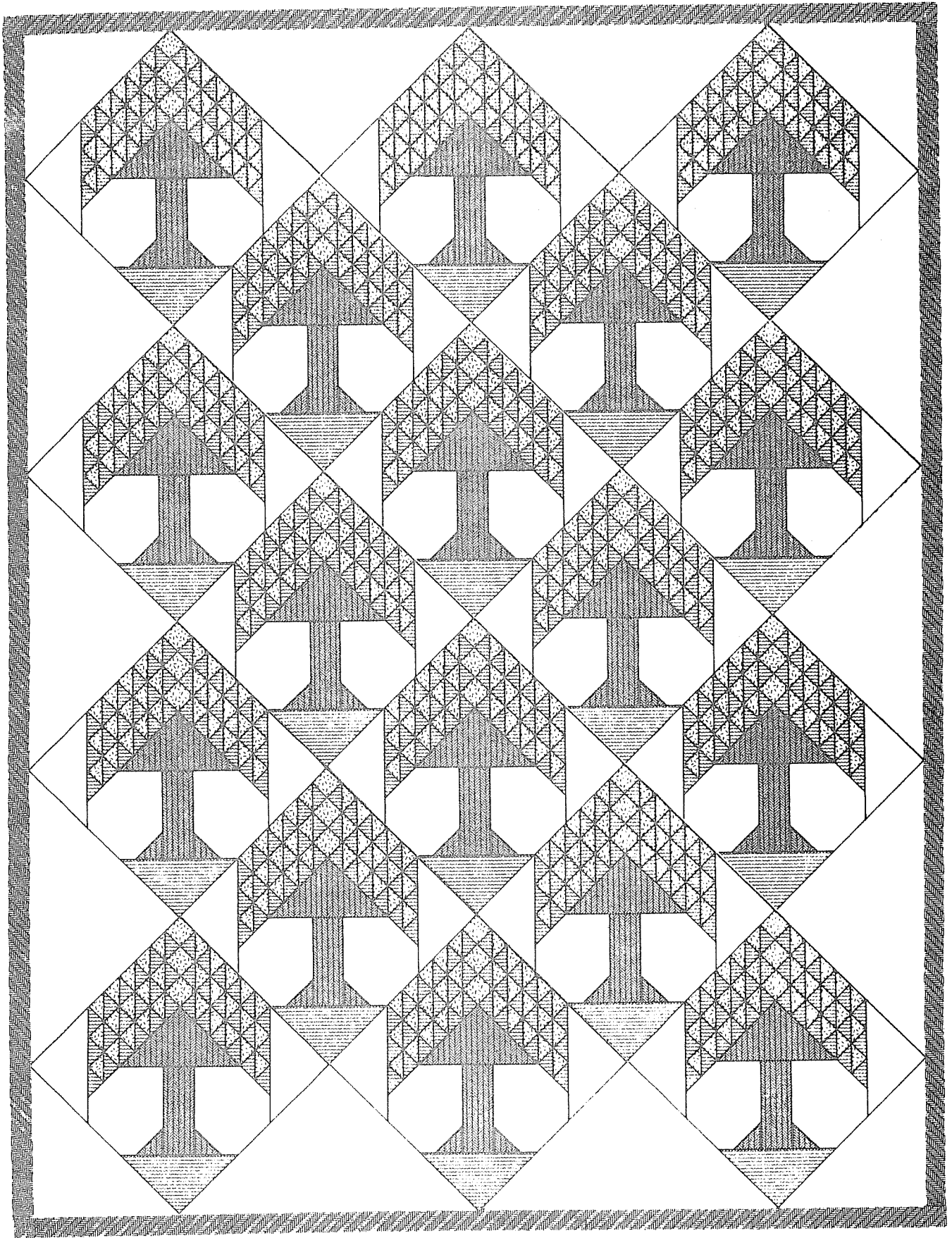
GEORGE LONG

COPY CAT INC

TOM ROSE

ARTWORK COURTESY OF MELISSA

EDITING AND PROGRAMMING SUPPORT
PROVIDED BY JOHN SWAIN



HOME OWNERS

PROGRAMS

1040 - TAX:

DESCRIPTION

This program is designed to aid you in preparing your Federal Tax Return. It will allow you the user to itemize your deductions or use the standard deduction as revised under the new tax laws for 1977. If your deductions are itemized this program will check your totals to see if they are within the norm for your income. Should your deduction totals exceed the norm for your income then your chances of being audited increase.

USERS

All taxpayers required to file a tax return and owning a computer system. This program should execute in most of the small micro-computer systems presently on the market.

INSTRUCTIONS

After loading the program into your computer just type RUN. The program is tutorial and will ask for all required data.

LIMITATIONS

Following the source code listing for this program are two examples of the program in operation, you should study these examples before running your taxes. You will need to look up data in the sales tax, gasoline tax and tax rate tables so be sure they are handy when you run the program. After the program has finished your taxes simply transfer the numbers from the print-out to the appropriate line on the tax schedules. This program does not use double precision variables as most of the small systems cannot support double precision. The source code is 12K Bytes long and the program should execute in 13K Bytes of available memory in most systems.

UCC COPYRIGHT 1978
BY SCIENTIFIC RESEARCH

```
100 REM THIS IS THE 1040 TAX PROGRAM
110 REM WRITTEN BY ROGER W. BROWN
120 REM EDITED BY JOHN W. SWAIN
130 REM UCC COPYRIGHT 1978 - BY - SCIENTIFIC RESEARCH
140 REM THIS PROGRAM MAY NOT BE REPRODUCED OR SOLD
150 PRINT"UCC COPYRIGHT 1978 - BY - SCIENTIFIC RESEARCH"
160 PRINT
170 PRINT
180 PRINT"1040 FEDERAL TAX PROGRAM INCLUDING SCHEDULE 'A' AND SUPPLE
MENTAL."
190 PRINT"SCHEDULES 'B', 'C', 'D', AND 'F'."
200 PRINT
210 PRINT
220 PRINT"ANSWER ALL QUESTIONS. IF IT DOESN'T APPLY, OR YOU DON'T H
AVE"
230 PRINT"INCOME OR EXEMPTIONS FOR THIS ITEM, ENTER A '0' UNLESS THE"
240 PRINT"QUESTION REQUIRES A 'YES' OR 'NO' ANSWER."
250 PRINT
260 PRINT
270 PRINT"THE 1040 FORM WILL BE DONE FIRST."
280 PRINT
290 PRINT
300 REM QUESTION SECTION
310 M=0
320 J=0
330 PRINT
340 PRINT"ARE YOU MARRIED";
350 INPUT Y$
360 PRINT
370 IF LEFT$(Y$,1) <> "Y" THEN 440
380 M=1
390 PRINT
400 PRINT"ARE YOU FILING A JOINT RETURN";
410 INPUT Y$
420 PRINT
430 IF LEFT$(Y$,1) = "Y" THEN J=1
440 PRINT"HOW MANY OTHER DEPENDENTS DO YOU CLAIM";
450 INPUT D1
460 PRINT
470 IF J=0 THEN 500
480 D=D1+2
490 GOTO 510
500 D=D1+1
510 PRINT"ARE YOU OR YOUR SPOUSE (IF FILING JOINT RETURN) OVER 65."
520 PRINT"      ENTER A 0, 1, OR 2";
530 INPUT E1
540 PRINT
550 PRINT"ARE YOU OR YOUR SPOUSE (IF FILING JOINT RETURN) BLIND."
560 PRINT"      ENTER A 0, 1, OR 2";
570 INPUT B1
580 PRINT
590 E1=E1+B1
600 REM E1 = # OF SPECIAL EXEMPTIONS
610 D2=D+E1
620 REM IF M=1 THEN MARRIED
```

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630 REM IF J=1 THEN FILING JOINT RETURN
640 PRINT"WHAT IS THE GROSS WAGES ON YOUR W-2'S";
650 INPUT G1
660 PRINT
670 PRINT"WHAT IS YOUR FEDERAL WITHOLDING";
680 INPUT F1
690 PRINT
700 IF J=0 THEN 770
710 PRINT"WHAT IS YOUR SPOUSE'S GROSS WAGES";
720 INPUT G2
730 PRINT
740 PRINT"WHAT HAS YOUR SPOUSE PAID INTO FEDERAL TAXES";
750 INPUT F2
760 PRINT
770 PRINT"ENTER ALL INERESTS RECEIVED (FROM SCHEDULE 'B')";
780 INPUT I1
790 PRINT
800 PRINT"ENTER ALL DIVIDENDS RECEIVED (FROM SCHEDULE 'B')";
810 INPUT D3
820 PRINT
830 G1=G1+G2
840 F1=F1+F2
850 PRINT"DID YOU ITEMIZE YOUR DEDUCTIONS ON YOUR FEDERAL RETURN LAS
T YEAR";
860 INPUT Y4
870 PRINT
880 IF LEFT$(Y4,1) <> "Y" THEN 930
890 PRINT"HOW MUCH STATE AND LOCAL TAX REFUNDS DID YOU RECEIVE FROM"
900 PRINT"LAST YEARS TAXES";
910 INPUT S3
920 PRINT
930 PRINT"HOW MUCH ALIMONY DID YOU RECEIVE";
940 INPUT S4
950 PRINT
960 PRINT"HOW MUCH BUSINESS INCOME OR LOSS DID YOU RECEIVE. IF LOSS
,"
970 PRINT" ENTER A NEGATIVE AMOUNT.";
980 INPUT S5
990 PRINT
1000 PRINT"HOW MUCH DID YOU GAIN OR LOOSE FROM SALE OR EXCHANGE OF"
1010 PRINT"CAPITAL ASSETS. IF LOSS, ENTER A NEGATIVE AMOUNT";
1020 INPUT S6
1030 PRINT
1040 PRINT"DID YOU HAVE ANY FARM INCOME OR LOSS. IF LOSS ENTER"
1050 PRINT"A NEGATIVE AMOUNT";
1060 INPUT S7
1070 PRINT
1080 S8=G1+I1+D3+S3+S4+S5+S6+S7
1090 PRINT"ENTER ANY MOVING EXPENSE YOU HAD. (INCLUDE WITH YOUR RETU
RN"
1100 PRINT"A '3903' FORM IF ANY)";
1110 INPUT M1
1120 PRINT
1130 PRINT"ENTER PAYMENTS TOWARD A RETIREMENT PLAN. (ATTACH FORM '53
29' IF"

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1140 PRINT"YOU QUALIFY)";
1150 INPUT D4
1160 PRINT
1170 PRINT"ENTER ANY ALIMONY PAYMENTS YOU HAVE MADE AND ARE ENTITLED
    TO";
1180 INPUT D5
1190 PRINT
1200 D6=D5+D4+M1
1210 D7=S8-D6
1220 PRINT"DID YOU RECEIVE ANY DISABILITY INCOME. (IF NONE, ENTER A
    '0',";
1230 PRINT"OTHERWISE, ENTER THE AMOUNT)";
1240 INPUT D8
1250 PRINT
1260 PRINT
1270 PRINT"THIS COMPLETES SIDE '1' OF THE 1040 FORM. NOW WE WILL DO"
1280 PRINT"THE REVERSE SIDE."
1290 PRINT
1300 PRINT
1310 PRINT
1320 D9=D7-D8
1330 IF D9>8000 THEN 1540
1340 IF M=1 AND J=1 THEN 1370
1350 IF M=1 THEN 1540
1360 PRINT
1370 PRINT"DID YOU EARN ANY INCOME FROM U. S. POSSESSIONS OR"
1380 PRINT"FROM ABROAD";
1390 INPUT Y$
1400 PRINT
1410 IF LEFT$(Y$,1)="Y" THEN 1540
1420 PRINT"DO YOU HAVE DEPENDENT CHILDREN";
1430 INPUT Y$
1440 PRINT
1450 IF LEFT$(Y$,1)≠"Y" THEN 1540
1460 D0=G1-D8+S5
1470 C1=D0*.1
1480 IF C1>400 THEN C1=400
1490 IF D0<D9 THEN D0=D9
1500 IF D0<4000 THEN 1540
1510 D0=D0-4000
1520 C2=D0*.1
1530 C1=C1+C2
1540 PRINT"ENTER ANY ESTIMATED TAX PAYMENTS YOU MADE FOR LAST YEAR";
1550 INPUT F2
1560 PRINT
1570 F4=F1+F2+C1
1580 PRINT"ENTER THE AMOUNT OF CREDIT FOR THE ELDERLY";
1590 INPUT I1
1600 PRINT
1610 PRINT"ENTER THE AMOUNT OF CREDIT FOR CHILD CARE. (ATTACH FORM"
1620 PRINT"2441 TO RETURN)";
1630 INPUT I2
1640 PRINT
1650 PRINT"ENTER THE AMOUNT OF INVESTMENT CREDIT";
1660 INPUT I3

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1670 PRINT
1680 I4=I1+I2+I3
1690 PRINT
1700 PRINT
1710 PRINT
1720 PRINT
1730 PRINT"THIS COMPLETES THE 1040 QUESTION AND ANSWER SECTION. SCHED
    ULE 'A'"
1740 PRINT"WILL BE DONE NEXT."
1750 PRINT
1760 PRINT
1770 PRINT
1780 PRINT
1790 REM THIS IS SCHEDULE 'A' SECTION
1800 PRINT
1810 PRINT
1820 PRINT"IF YOU DON'T WANT TO ITEMIZE YOUR TAXES, TYPE A '0' OTHERWI
    SE"
1830 PRINT"TYPE A '1'";
1840 INPUT TZ
1850 IF TZ=0 THEN 3180
1860 PRINT"MEDICAL EXPENSES WILL BE DONE FIRST."
1870 PRINT
1880 PRINT
1890 PRINT
1900 PRINT"ENTER YOUR TOTAL MEDICAL INSURANCE PREMIUMS. THE PROGRAM W
    ILL"
1910 PRINT"CALCULATE THE CORRECT AMOUNT AND ENTER IT INTO THE FORM";
1920 INPUT W9
1930 PRINT
1940 P1=W9/2
1950 IF P1>150 THEN P1=150
1960 PRINT"HOW MUCH DID YOU PAY FOR PRESCRIPTIONS";
1970 INPUT P2
1980 PRINT
1990 P3=D9*.01
2000 P4=P2-P3
2010 IF P4<0 THEN P4=0
2020 PRINT"ENTER ALL OTHER MEDICAL EXPENSES AND MISC. CHARGES";
2030 INPUT P5
2040 PRINT
2050 P6=P4+P5-P1+W9
2060 P7=D9*.03
2070 P8=P6-P7
2080 IF P8<0 THEN P8=0
2090 P9=P8+P1
2100 PRINT
2110 PRINT
2120 IF P9>550 THEN GOSUB 5770
2130 PRINT"TAX EXPENSES WILL BE DONE NEXT."
2140 PRINT
2150 PRINT
2160 PRINT"ENTER THE TOTAL STATE AND LOCAL INCOME TAXES WITHHELD";
2170 INPUT Q1
2180 PRINT
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```
2190 PRINT"ENTER THE REAL ESTATE TAXES PAID";
2200 INPUT Q2
2210 PRINT
2220 PRINT"LOOK UP THE GASOLINE TAX YOU ARE ENTITLED TO IN THE TAX"
2230 PRINT"TABLE AND THEN ENTER THE AMOUNT HERE";
2240 INPUT Q3
2250 PRINT
2260 PRINT"LOOK UP THE SALES TAX CREDIT FROM THE TAX TABLE AND ENTER"
2270 PRINT"THE AMOUNT CORRESPONDING TO YOUR INCOME HERE. (NOTE: IF Y
OU"
2280 PRINT"HAD ANY MAJOR PURCHASES SUCH AS A CAR OR ETC. YOU MAY ALS
O TAKE"
2290 PRINT"AS A DEDUCTION, THE SALES TAX PAID ON THOSE ITEMS)"
2300 PRINT
2310 PRINT"ENTER THE TOTAL SALES TAX DEDUCTION HERE";
2320 INPUT Q4
2330 PRINT
2340 PRINT"ENTER ALL PERSONAL PROPERTY TAXES PAID";
2350 INPUT Q5
2360 PRINT
2370 PRINT"ENTER ANY OTHER MISC. TAXES PAID EXCEPT 'FICA' AND 'FEDERA
L'"
2380 PRINT"THAT HAVE NOT ALREADY BEEN ENTERED";
2390 INPUT Q6
2400 PRINT
2410 Q7=Q1+Q2+Q3+Q4+Q5+Q6
2420 IF Q7>.1*D9 THEN GOSUB 5690
2430 PRINT
2440 PRINT
2450 PRINT"INTEREST EXPENSES WILL BE DONE NEXT."
2460 PRINT
2470 PRINT
2480 PRINT"ENTER THE INTEREST YOU PAID ON YOUR HOME MORTGAGE";
2490 INPUT Q8
2500 PRINT
2510 PRINT"ENTER ALL OTHER INTERESTS YOU PAID SUCH AS ON LOANS, CREDI
T CARDS,"
2520 PRINT"AND ETC.,";
2530 INPUT Q9
2540 PRINT
2550 Q0=Q8+Q9
2560 IF Q0>.1*D9 THEN GOSUB 5810
2570 PRINT
2580 PRINT
2590 PRINT"CONTRIBUTIONS WILL BE DONE NEXT."
2600 PRINT
2610 PRINT
2620 PRINT"ENTER ANY CASH CONTRIBUTIONS YOU MADE";
2630 INPUT R1
2640 PRINT
2650 PRINT"ENTER CASH VALUE OF OTHER CONTRIBUTIONS MADE SUCH AS CLOTH
ES,"
2660 PRINT"OLD FURNITURE, AND ETC.,";
2670 INPUT R2
2680 PRINT
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```
2690 R3=R1+R2
2700 IF R3>400 THEN GOSUB 5850
2710 PRINT
2720 PRINT
2730 PRINT"LOSSES WILL BE DONE NEXT."
2740 PRINT
2750 PRINT
2760 PRINT"ENTER ALL CASUALTY LOSSES";
2770 INPUT R4
2780 PRINT
2790 PRINT"ENTER ALL INSURANCE REIMBURSEMENTS FOR THESE LOSS (IF ANY
)";
2800 INPUT R5
2810 R6=R4-R5
2820 IF R6<0 THEN R6=0
2830 PRINT"ENTER $100 FOR EACH LOSS";
2840 INPUT R7
2850 PRINT
2860 IF R6=0 THEN R7=0
2870 R8=R6-R7
2880 IF R8<0 THEN R8=0
2890 IF R8>300 THEN GOSUB 5890
2900 PRINT
2910 PRINT
2920 PRINT"MISCELLANEOUS DEDUCTIONS WILL BE DONE NEXT."
2930 PRINT
2940 PRINT
2950 PRINT"ENTER ALL UNION DUES PAID";
2960 INPUT R9
2970 PRINT
2980 PRINT"ENTER ALL OTHER MISC. DEDUCTIONS SUCH AS COST OF BOOKS, UN
IFORMS,"
2990 PRINT"TOOLS, ETC.";
3000 INPUT U1
3010 PRINT
3020 U2=R9+U1
3030 U3=P9+Q7+Q0+R3+R8+U2
3040 IF M=0 THEN 3090
3050 IF J=1 THEN U4=3200
3060 IF U4=3200 THEN 3160
3070 U4=1600
3080 GOTO 3160
3090 U4=2200
3100 PRINT"ARE YOU A QUALIFYING WIDOW OR WIDOWER WITH DEPENDENT CHILD
OFR"
3110 PRINT"CHILDREN";
3120 INPUT Z#
3130 PRINT
3140 IF LEFT$(Z#,1)<>"Y" THEN 3160
3150 U4=3200
3160 U5=U3-U4
3170 IF U5<0 THEN U5=0
3180 U6=D9-U5
3190 PRINT
3200 Q#=" X, Y, OR Z "
```

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3210 IF U6 > 20000 THEN 3230
3220 Q$=" A, B, C, OR D "
3230 PRINT"THE TOTAL NUMBER OF EXEMPTIONS YOU CLAIMED IS" ;D2
3240 PRINT"YOUR TAXABLE INCOME IS $" ;U6;" . LOOK UP THIS AMOUNT IN TH
E TAX RATE"
3250 PRINT"TABLES" ;Q$;"AND ENTER YOUR TAX HERE" ;
3260 INPUT U7
3270 PRINT
3280 U8=U7-I4
3290 IF U8<0 THEN U8=0
3300 U9=F4-U8
3310 U0=U8-F4
3320 IF U9<0 THEN U9=0
3330 IF U0<0 THEN U0=0
3340 IF U9=0 THEN 3400
3350 PRINT
3360 PRINT
3370 PRINT
3380 PRINT
3390 PRINT"REFUND . . . REFUND . . OF . . . $" ;U9;" . . . . ."
3400 PRINT
3410 PRINT
3420 PRINT
3430 PRINT
3440 PRINT"THIS FINISHES THE QUESTIONING SECTION OF THE 1040 TAX PROG
RAM. "
3450 PRINT"NOW THE PROGRAM WILL PRINT OUT THE TOTALS TO BE USED IN"
3460 PRINT"FILLING OUT YOUR TAX FORMS. THE '1040' FORM WILL BE"
3470 PRINT"FIRST. "
3480 PRINT"DO YOU HAVE HARD COPY (Y OR N)";
3490 INPUT Z$
3500 PRINT
3510 IF LEFT$(Z$,1)="Y" THEN 3600
3520 PRINT"HOW MANY SECONDS DELAY WOULD YOU LIKE"
3530 PRINT"BETWEEN PRINTED LINES (0 = NO DELAY)";
3540 INPUT X1
3550 PRINT
3560 PRINT
3570 PRINT
3580 REM THIS FILLS IN THE BLANKS FOR THE 1040 AND SCHEDULE 'A'
3590 REM THIS PROGRAM FITS THE NEW 1977 TAX FORMS.
3600 PRINT"THE FOLLOWING ARE THE LINE NUMBERS AND AMOUNTS TO BE ENTER
ED"
3610 PRINT"ON YOUR 1040 FORM. "
3620 PRINT
3630 PRINT
3640 PRINT
3650 PRINT"UCC - COPYRIGHT 1978 BY - SCIENTIFIC RESEARCH"
3660 PRINT
3670 PRINT
3680 PRINT
3690 PRINT"LINE NUMBER", "AMOUNT", "AMOUNT"
3700 PRINT
3710 PRINTTAB(6); "7", ;D2
3720 GOSUB 5620

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3730 PRINTTAB(6);"8",,G1
3740 GOSUB 5620
3750 PRINTTAB(6);"9",,I1
3760 GOSUB 5620
3770 PRINTTAB(4);"10C",,D3
3780 GOSUB 5620
3790 PRINTTAB(5);"11",,S3
3800 GOSUB 5620
3810 PRINTTAB(5);"12",,S4
3820 GOSUB 5620
3830 PRINTTAB(5);"13",,S5
3840 GOSUB 5620
3850 PRINTTAB(5);"14",,S6
3860 GOSUB 5620
3870 PRINTTAB(5);"19",,S7
3880 GOSUB 5620
3890 PRINTTAB(5);"21",,S8
3900 GOSUB 5620
3910 PRINTTAB(5);"22",,M1
3920 GOSUB 5620
3930 PRINTTAB(5);"24",,D4
3940 GOSUB 5620
3950 PRINTTAB(5);"27",,D5
3960 GOSUB 5620
3970 PRINTTAB(5);"28",,D6
3980 GOSUB 5620
3990 PRINTTAB(5);"29",,D7
4000 GOSUB 5620
4010 PRINTTAB(5);"30",,D8
4020 GOSUB 5620
4030 PRINTTAB(5);"31",,D9
4040 GOSUB 5620
4050 PRINT
4060 PRINT
4070 PRINT"THIS IS THE END OF THE FRONT SIDE OF THE 1040 FORM. NOW T
HE "
4080 PRINT"BACK SIDE WILL BE FILLED IN,"
4090 PRINT
4100 PRINT
4110 PRINT"UCC -- COPYRIGHT 1978 BY -- SCIENTIFIC RESEARCH"
4120 PRINT
4130 PRINT
4140 PRINTTAB(5);"32",,D9
4150 GOSUB 5620
4160 PRINTTAB(5);"33",,U5
4170 GOSUB 5620
4180 PRINTTAB(5);"34",,U6
4190 GOSUB 5620
4200 PRINTTAB(5);"35",,U7
4210 GOSUB 5620
4220 PRINTTAB(5);"37",,U7
4230 GOSUB 5620
4240 PRINTTAB(5);"39",,I1
4250 GOSUB 5620
4260 PRINTTAB(5);"40",,I2

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4270 GOSUB 5620
4280 PRINTTAB(5);"41",I3
4290 GOSUB 5620
4300 PRINTTAB(5);"46",,I4
4310 GOSUB 5620
4320 PRINTTAB(5);"47",,U8
4330 GOSUB 5620
4340 PRINTTAB(5);"54",,U8
4350 GOSUB 5620
4360 PRINTTAB(5);"55",F1
4370 GOSUB 5620
4380 PRINTTAB(5);"56",F2
4390 GOSUB 5620
4400 PRINTTAB(5);"57",C1
4410 GOSUB 5620
4420 PRINTTAB(5);"62",,F4
4430 GOSUB 5620
4440 PRINTTAB(5);"63",,U9
4450 GOSUB 5620
4460 PRINTTAB(5);"64",,U9
4470 GOSUB 5620
4480 PRINTTAB(5);"66",,U0
4490 GOSUB 5620
4500 GOSUB 5620
4510 PRINT
4520 PRINT
4530 PRINT
4540 IF TZ=0 THEN 5470
4550 PRINT
4560 PRINT"THIS END THE PRINT OUT OF THE '1040' TAX TOTALS. THE"
4570 PRINT"FOLLOWING LINE NUMBERS WILL REFLECT THE FIGURES"
4580 PRINT"WHICH ARE USED ON SCHEDULE 'A'."
4590 PRINT
4600 PRINT
4610 PRINT
4620 PRINT
4630 PRINT"UCC - COPYRIGHT 1978 BY - SCIENTIFIC RESEARCH"
4640 PRINT
4650 PRINT
4660 PRINT
4670 PRINT"LINE NUMBER", "AMOUNT"
4680 PRINT
4690 PRINTTAB(6);" 1",P1
4700 GOSUB 5620
4710 PRINTTAB(6);" 2",P2
4720 GOSUB 5620
4730 PRINTTAB(6);" 3",P3
4740 GOSUB 5620
4750 PRINTTAB(6);" 4",P4
4760 GOSUB 5620
4770 PRINTTAB(5);" 6C",P5
4780 GOSUB 5620
4790 PRINTTAB(6);" 7",P6
4800 GOSUB 5620
4810 PRINTTAB(6);" 8",P7

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4820 GOSUB 5620
4830 PRINTTAB(6); "9", P8
4840 GOSUB 5620
4850 PRINTTAB(5); "10", P9
4860 GOSUB 5620
4870 PRINTTAB(5); "11", Q1
4880 GOSUB 5620
4890 PRINTTAB(5); "12", Q2
4900 GOSUB 5620
4910 PRINTTAB(5); "13", Q3
4920 GOSUB 5620
4930 PRINTTAB(5); "14", Q4
4940 GOSUB 5620
4950 PRINTTAB(5); "15", Q5
4960 GOSUB 5620
4970 PRINTTAB(5); "16", Q6
4980 GOSUB 5620
4990 PRINTTAB(5); "17", Q7
5000 GOSUB 5620
5010 PRINTTAB(5); "18", Q8
5020 GOSUB 5620
5030 PRINTTAB(5); "19", Q9
5040 GOSUB 5620
5050 PRINTTAB(5); "20", Q0
5060 GOSUB 5620
5070 PRINTTAB(5); "21", R1
5080 GOSUB 5620
5090 PRINTTAB(5); "22", R2
5100 GOSUB 5620
5110 PRINTTAB(5); "24", R3
5120 GOSUB 5620
5130 PRINTTAB(5); "25", R4
5140 GOSUB 5620
5150 PRINTTAB(5); "26", R5
5160 GOSUB 5620
5170 PRINTTAB(5); "27", R6
5180 GOSUB 5620
5190 PRINTTAB(5); "28", R7
5200 GOSUB 5620
5210 PRINTTAB(5); "29", R8
5220 GOSUB 5620
5230 PRINTTAB(5); "30", R9
5240 GOSUB 5620
5250 PRINTTAB(5); "31", U1
5260 GOSUB 5620
5270 PRINTTAB(5); "32", U2
5280 GOSUB 5620
5290 PRINTTAB(5); "33", P9
5300 GOSUB 5620
5310 PRINTTAB(5); "34", Q7
5320 GOSUB 5620
5330 PRINTTAB(5); "35", Q0
5340 GOSUB 5620
5350 PRINTTAB(5); "36", R3
5360 GOSUB 5620

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5370 PRINTTAB(5);"37",R8
5380 GOSUB 5620
5390 PRINTTAB(5);"38",U2
5400 GOSUB 5620
5410 PRINTTAB(5);"39",U3
5420 GOSUB 5620
5430 PRINTTAB(5);"40",U4
5440 GOSUB 5620
5450 PRINTTAB(5);"41",U5
5460 GOSUB 5620
5470 GOSUB 5620
5480 PRINT
5490 PRINT
5500 PRINT
5510 PRINT"THIS FINISHES THE '1040' TAX PROGRAM. NOW YOU"
5520 PRINT"MUST FILL IN THE BLANKS ON THE APPROPRIATE FORMS AND THEN
SIGN"
5530 PRINT"THEM IN THE CORRECT PLACES. BE SURE TO INCLUDE ANY AND AL
L"
5540 PRINT"SUPPORTING FORMS, IF ANY, AND A CHECK IF YOU"
5550 PRINT"OWE THE GOVERNMENT ANY TAXES."
5560 PRINT
5570 PRINT"      THANK YOU FOR ALLOWING ME TO HELP YOU WITH YOUR TAXES"
5580 PRINT"THIS YEAR."
5590 PRINT
5600 PRINT
5610 GOTO 5680
5620 PRINT
5630 IF X1=0 THEN RETURN
5640 FOR I=1 TO 20*X1
5650 X2=SQR(I)
5660 NEXT I
5670 RETURN
5680 END
5690 PRINT
5700 PRINT
5710 PRINT"YOUR TAXES ";
5720 PRINT"ARE GREATER THAN WOULD BE EXPECTED FOR YOUR INCOME."
5730 PRINT"THIS MAY CAUSE YOUR RETURN TO BE AUDITED."
5740 PRINT
5750 PRINT
5760 RETURN
5770 PRINT
5780 PRINT
5790 PRINT"YOUR MEDICAL EXPENSES ";
5800 GOTO 5720
5810 PRINT
5820 PRINT
5830 PRINT"YOUR INTERESTS ";
5840 GOTO 5720
5850 PRINT
5860 PRINT
5870 PRINT"YOUR CONTRIBUIONS ";
5880 GOTO 5720
5890 PRINT
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- 5900 PRINT
- 5910 PRINT "YOUR LOSSES MAY CAUSE YOUR RETURN TO BE AUDITED."
- 5920 PRINT
- 5930 PRINT
- 5940 RETURN



RUN"1040 TAX"

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1040 FEDERAL TAX PROGRAM INCLUDING SCHEDULE 'A' AND SUPPLEMENTAL SCHEDULES 'B', 'C', 'D', AND 'E'.

ANSWER ALL QUESTIONS. IF IT DOESN'T APPLY, OR YOU DON'T HAVE INCOME OR EXEMPTIONS FOR THIS ITEM, ENTER A '0' UNLESS THE QUESTION REQUIRES A 'YES' OR 'NO' ANSWER.

THE 1040 FORM WILL BE DONE FIRST.

ARE YOU MARRIED? Y

ARE YOU FILING A JOINT RETURN? Y

HOW MANY OTHER DEPENDENTS DO YOU CLAIM? 3

ARE YOU OR YOUR SPOUSE (IF FILING JOINT RETURN) OVER 65.
ENTER A 0, 1, OR 2? 0

ARE YOU OR YOUR SPOUSE (IF FILING JOINT RETURN) BLIND,
ENTER A 0, 1, OR 2? 0

WHAT IS THE GROSS WAGES ON YOUR W-2'S? 12400

WHAT IS YOUR FEDERAL WITHHOLDING? 2028

WHAT IS YOUR SPOUSE'S GROSS WADES? 9600

WHAT HAS YOUR SPOUSE PAID INTO FEDERAL TAXES? 1640

ENTER ALL INERESTS RECEIVED (FROM SCHEDULE 'B')? 0

ENTER ALL DIVIDENDS RECEIVED (FROM SCHEDULE 'B')? 0

DID YOU ITEMIZE YOUR DEDUCTIONS ON YOUR FEDERAL RETURN LAST YEAR? Y

HOW MUCH STATE AND LOCAL TAX REFUNDS DID YOU RECEIVE FROM
LAST YEAR'S TAXES? 0

HOW MUCH ALIMONY DID YOU RECEIVE? 0

HOW MUCH BUSINESS INCOME OR LOSS DID YOU RECEIVE. IF LOSS,
ENTER A NEGATIVE AMOUNT.? 0

HOW MUCH DID YOU GAIN OR LOOSE FROM SALE OR EXCHANGE OF
CAPITAL ASSETS. IF LOSS, ENTER A NEGATIVE AMOUNT? 0

DID YOU HAVE ANY FARM INCOME OR LOSS. IF LOSS ENTER
A NEGATIVE AMOUNT? 0

ENTER ANY MOVING EXPENSE YOU HAD. (INCLUDE WITH YOUR RETURN
A '3903' FORM IF ANY)? 0

ENTER PAYMENTS TOWARD A RETIREMENT PLAN. (ATTACH FORM '5329' IF
YOU QUALIFY)? 0

ENTER ANY ALIMONY PAYMENTS YOU HAVE MADE AND ARE ENTITLED TO? 120

DID YOU RECEIVE ANY DISABILITY INCOME. (IF NONE, ENTER A '0',
OTHERWISE, ENTER THE AMOUNT)? 0

THIS COMPLETES SIDE '1' OF THE 1040 FORM. NOW WE WILL DO
THE REVERSE SIDE.

ENTER ANY ESTIMATED TAX PAYMENTS YOU MADE FOR LAST YEAR? 0

ENTER THE AMOUNT OF CREDIT FOR THE ELDERLY? 0

ENTER THE AMOUNT OF CREDIT FOR CHILD CARE. (ATTACH FORM
2441 TO RETURN)? 1500

ENTER THE AMOUNT OF INVESTMENT CREDIT? 0

THIS COMPLETES THE 1040 QUESTION AND ANSWER SECTION. SCHEDULE 'A'
WILL BE DONE NEXT.

IF YOU DON'T WANT TO ITEMIZE YOUR TAXES, TYPE A '0' OTHERWISE
TYPE A '1'? 1
MEDICAL EXPENSES WILL BE DONE FIRST.

ENTER YOUR TOTAL MEDICAL INSURANCE PREMIUMS. THE PROGRAM WILL
CALCULATE THE CORRECT AMOUNT AND ENTER IT INTO THE FORM? 270

HOW MUCH DID YOU PAY FOR PRESCRIPTIONS? 255

ENTER ALL OTHER MEDICAL EXPENSES AND MISC. CHARGES? 629

TAX EXPENSES WILL BE DONE NEXT.

ENTER THE TOTAL STATE AND LOCAL INCOME TAXES WITHHELD? 450

ENTER THE REAL ESTATE TAXES PAID? 840

LOOK UP THE GASOLINE TAX YOU ARE ENTITLED TO IN THE TAX
TABLE AND THEN ENTER THE AMOUNT HERE? 95

LOOK UP THE SALES TAX CREDIT FROM THE TAX TABLE AND ENTER
THE AMOUNT CORRESPONDING TO YOUR INCOME HERE, (NOTE: IF YOU
HAD ANY MAJOR PURCHASES SUCH AS A CAR OR ETC. YOU MAY ALSO TAKE
AS A DEDUCTION, THE SALES TAX PAID ON THOSE ITEMS)

ENTER THE TOTAL SALES TAX DEDUCTION HERE? 557

ENTER ALL PERSONAL PROPERTY TAXES PAID? 0

ENTER ANY OTHER MISC. TAXES PAID EXCEPT 'FICA' AND 'FEDERAL'
THAT HAVE NOT ALREADY BEEN ENTERED? 0

INTEREST EXPENSES WILL BE DONE NEXT.

ENTER THE INTEREST YOU PAID ON YOUR HOME MORTGAGE? 3_1267

ENTER ALL OTHER INTERESTS YOU PAID SUCH AS ON LOANS, CREDIT CARDS,
AND ETC.? 308

CONTRIBUTIONS WILL BE DONE NEXT.

ENTER ANY CASH CONTRIBUTIONS YOU MADE? 2650

ENTER CASH VALUE OF OTHER CONTRIBUTIONS MADE SUCH AS CLOTHES,
OLD FURNITURE, AND ETC.? 57

YOUR CONTRIBUTIONS ARE GREATER THAN WOULD BE EXPECTED FOR YOUR INCOME.
THIS MAY CAUSE YOUR RETURN TO BE AUDITED.

LOSSES WILL BE DONE NEXT.

ENTER ALL CASUALTY LOSSES? 180

ENTER ALL INSURANCE REIMBURSEMENTS FOR THESE LOSS (IF ANY)? 0
ENTER \$100 FOR EACH LOSS? 100

MISCELLANEOUS DEDUCTIONS WILL BE DONE NEXT.

ENTER ALL UNION DUES PAID? 72

ENTER ALL OTHER MISC. DEDUCTIONS SUCH AS COST OF BOOKS, UNIFORMS,
TOOLS, ETC.? 305

THE TOTAL NUMBER OF EXEMPTIONS YOU CLAIMED IS 5
YOUR TAXABLE INCOME IS \$ 17132 . LOCK UP THIS AMOUNT IN THE TAX RATE
TABLES A, B, C, OR D AND ENTER YOUR TAX HERE? 1679

REFUND . . . REFUND . . . OF . . . \$ 3489

THIS FINISHES THE QUESTIONING SECTION OF THE 1040 TAX PROGRAM.
NOW THE PROGRAM WILL PRINT OUT THE TOTALS TO BE USED IN
FILLING OUT YOUR TAX FORMS. THE '1040' FORM WILL BE
FIRST.

DO YOU HAVE HARD COPY (Y OR N)? Y

THE FOLLOWING ARE THE LINE NUMBERS AND AMOUNTS TO BE ENTERED
ON YOUR 1040 FORM.

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LINE NUMBER	AMOUNT	AMOUNT
/		5
8		22000
9		0
10C		0
11		0
12		0
13		0
14		0
19		0
21		22000
22	0	
24	0	
27	1200	
28		1200
29		20800
30		0
31		20800

THIS IS THE END OF THE FRONT SIDE OF THE 1040 FORM. NOW THE
BACK SIDE WILL BE FILLED IN,

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32		20800
33		3668
34		17132
35		1679
37		1679
39	0	
40	1500	
41	0	
46		1500
47		179
54		179
55	3668	
56	0	
57	0	
62		3668
63		3489
64		3489
66		0

THIS END THE PRINT OUT OF THE '1040' TAX TOTALS. THE
FOLLOWING LINE NUMBERS WILL REFLECT THE FIGURES
WHICH ARE USED ON SCHEDULE 'A'.

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LINE NUMBER	AMOUNT
1	135
2	255
3	208
4	47
50	629
7	676
8	624
9	52
10	187
11	450
12	840
13	95
14	557
15	0
16	0
17	1942
18	1267
19	308
20	1575
21	2650
22	57
24	2707
25	180
26	0

27	180
28	100
29	80
30	72
31	305
32	377
33	187
34	1942
35	1575
36	2707
37	80
38	377
39	6868
40	3200
41	3668

THIS FINISHES THE '1040' TAX PROGRAM. NOW YOU MUST FILL IN THE BLANKS ON THE APPROPRIATE FORMS AND THEN SIGN THEM IN THE CORRECT PLACES. BE SURE TO INCLUDE ANY AND ALL SUPPORTING FORMS, IF ANY, AND A CHECK IF YOU OWE THE GOVERNMENT ANY TAXES.

THANK YOU FOR ALLOWING ME TO HELP YOU WITH YOUR TAXES THIS YEAR.

OK

For the year January 1–December 31, 1977, or other taxable year beginning

, 1977 ending

, 19

Use IRS label, otherwise, print or type.

First name and initial (if joint return, give first names and initials of both) **James L. Karen J.** Last name **Johnson**

Present home address (Number and street, including apartment number, or rural route) **1426 Westview Ave.**

City, town or post office, State and ZIP code **Hollywood, CA, 91407**

Your social security number **327-57-6221**

Spouse's social security no. **118-61-0341**

For Privacy Act Notice, see page 3 of Instructions.

Occupation: Yours **Engineer**, Spouse's **Teacher**

Presidential Election Campaign Fund

Do you want \$1 to go to this fund? Yes No

If joint return, does your spouse want \$1 to go to this fund? Yes No

Note: Checking "Yes" will not increase your tax or reduce your refund.

Filing Status

1 Single

2 Married filing joint return (even if only one had income)

3 Married filing separately. If spouse is also filing, give spouse's social security number in the space above and enter full name here

4 Unmarried Head of Household. Enter qualifying name

5 Qualifying widow(er) with dependent child (Year spouse died 19). See page 7 of Instructions.

Exemptions

Always check the "Yourself" box. Check other boxes if they apply.

6a Yourself 65 or over Blind

b Spouse 65 or over Blind

c First names of your dependent children who lived with you **Frank, Jean, Kay**

Enter number of boxes checked on 6a and b **2**

Enter number of children listed **3**

d Other dependents:	(1) Name	(2) Relationship	(3) Number of months lived in your home.	(4) Did dependent have income of \$750 or more?	(5) Did you provide more than one half of dependent's support?

Enter number of other dependents **0**

Add numbers entered in boxes above **5**

7 Total number of exemptions claimed **5**

Income

(Attach Forms W-2. If unavailable, see page 5 of Instructions)

Line	Description	Amount
8	Wages, salaries, tips, and other employee compensation	22000
9	Interest income (If over \$400, attach Schedule B.)	0
10a	Dividends (If over \$400, attach Schedule B)	0
10b	less exclusion	0
10c	Balance	0
11	State and local income tax refunds (does not apply if refund is for year you took standard deduction)	0
12	Alimony received	0
13	Business income or (loss) (attach Schedule C)	0
14	Capital gain or (loss) (attach Schedule D)	0
15	50% of capital gain distributions not reported on Schedule D	0
16	Net gain or (loss) from Supplemental Schedule of Gains and Losses (attach Form 4797)	0
17	Fully taxable pensions and annuities not reported on Schedule E	0
18	Pensions, annuities, rents, royalties, partnerships, estates or trusts, etc. (attach Schedule E)	0
19	Farm income or (loss) (attach Schedule F)	0
20	Other (state nature and source—see page 9 of Instructions)	0
21	Total income. Add lines 8, 9, and 10c through 20	22000

Adjustments to Income (If none, skip lines 22 through 27 and enter zero on line 28.)

Line	Description	Amount
22	Moving expense (attach Form 3903)	0
23	Employee business expenses (attach Form 2106)	0
24	Payments to an individual retirement arrangement (from attached Form 5329, Part III)	0
25	Payments to a Keogh (H.R. 10) retirement plan	0
26	Forfeited interest penalty for premature withdrawal	0
27	Alimony paid (see page 11 of Instructions)	1200
28	Total adjustments. Add lines 22 through 27	1200
29	Subtract line 28 from line 21	20800
30	Disability income exclusion (sick pay) (attach Form 2440)	0
31	Adjusted gross income. Subtract line 30 from line 29. Enter here and on line 32. If you want IRS to figure your tax for you, see page 4 of the Instructions	20800

Please Attach Copy B of Forms W-2 Here

Please Attach Check or Money Order Here

Tax Computation	32 Amount from line 31	32	20800	—
	33 If you itemize deductions, enter excess itemized deductions from Schedule A, line 41 If you do NOT itemize deductions, enter zero. Caution: If you have unearned income and can be claimed as a dependent on your parent's return, check here <input type="checkbox"/> and see page 11 of the Instructions. Also see page 11 of the Instructions if: ● You are married filing a separate return and your spouse itemizes deductions, OR ● You file Form 4563, OR ● You are a dual-status alien.	33	3668	—
	34 Tax Table Income. Subtract line 33 from line 32 Note: See Instructions for line 35 on page 11. Then find your tax on the amount on line 34 in the Tax Tables. Enter the tax on line 35. However, if line 34 is more than \$20,000 (\$40,000 if you checked box 2 or 5) or you have more exemptions than those covered in the Tax Tables for your filing status, use Part I of Schedule TC (Form 1040) to figure your tax. You must also use Schedule TC if you file Schedule G (Form 1040), Income Averaging.	34	17132	—
	35 Tax. Check if from <input checked="" type="checkbox"/> Tax Tables or <input type="checkbox"/> Schedule TC	35	1679	—
	36 Additional taxes. (See page 12 of Instructions.) Check if from <input type="checkbox"/> Form 4970, <input type="checkbox"/> Form 4972, <input type="checkbox"/> Form 5544, <input type="checkbox"/> Form 5405, or <input type="checkbox"/> Section 72(m)(5) penalty tax	36		
	37 Total. Add lines 35 and 36	37	1679	—

Credits	38 Credit for contributions to candidates for public office	38		
	39 Credit for the elderly (attach Schedules R&RP)	39	0	
	40 Credit for child and dependent care expenses (attach Form 2441)	40	1500	—
	41 Investment credit (attach Form 3468)	41	0	
	42 Foreign tax credit (attach Form 1116)	42		
	43 Work Incentive (WIN) Credit (attach Form 4874)	43		
	44 New jobs credit (attach Form 5884)	44		
45 See page 12 of Instructions	45			
46 Total credits. Add lines 38 through 45	46	1500	—	
47 Balance. Subtract line 46 from line 37 and enter difference (but not less than zero)	47	179	—	

Other Taxes	48 Self-employment tax (attach Schedule SE)	48		
	49 Minimum tax. Check here <input type="checkbox"/> and attach Form 4625	49		
	50 Tax from recomputing prior-year investment credit (attach Form 4255)	50		
	51 Social security tax on tip income not reported to employer (attach Form 4137)	51		
	52 Uncollected employee social security tax on tips (from Form W-2)	52		
	53 Tax on an individual retirement arrangement (attach Form 5329)	53		
	54 Total tax. Add lines 47 through 53	54	179	—

Payments	55 Total Federal income tax withheld (attach Forms W-2, W-2G, and W-2P to front)	55	3668	—
	56 1977 estimated tax payments (include amount allowed as credit from 1976 return)	56	0	
	57 Earned income credit. If line 31 is under \$8,000, see page 2 of Instructions. If eligible, enter child's name <input type="checkbox"/>	57	0	
	58 Amount paid with Form 4868	58		
	59 Excess FICA and RRTA tax withheld (two or more employers)	59		
	60 Credit for Federal tax on special fuels, etc. (attach Form 4136)	60		
	61 Credit from a Regulated Investment Company (attach Form 2439)	61		
61a See page 13 of Instructions	61a			
62 Total. Add lines 55 through 61a	62	3668	—	

Refund or Due	63 If line 62 is larger than line 54, enter amount OVERPAID	63	3489	—
	64 Amount of line 63 to be REFUNDED TO YOU	64	3489	—
	65 Amount of line 63 to be credited on 1978 estimated tax	65		
	66 If line 54 is larger than line 62, enter BALANCE DUE. Attach check or money order for full amount payable to "Internal Revenue Service." Write social security number on check or money order (Check <input type="checkbox"/> if Form 2210 (2210F) is attached. See page 14 of Instructions.)	66	0	

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Your signature: James S. Johnson Date: 4/15/78 Paid preparer's signature and identifying number (see instructions) _____
 Spouse's signature (if filing jointly, BOTH must sign even if only one had income) Karen J. Johnson Paid preparer's address (or employer's name, address, and identifying number) _____

**Schedules A&B—Itemized Deductions AND
(Form 1040) Interest and Dividend Income**

1977

Department of the Treasury
Internal Revenue Service

▶ Attach to Form 1040. ▶ See Instructions for Schedules A and B (Form 1040).

Name(s) as shown on Form 1040

Your social security number

James L., Karen J. Johnson

327 57622

Schedule A Itemized Deductions (Schedule B is on back)

Medical and Dental Expenses (not compensated by insurance or otherwise) (See page 14 of Instructions.)

1 One-half (but not more than \$150) of insurance premiums for medical care. (Be sure to include in line 10 below)	135	-
2 Medicine and drugs	255	-
3 Enter 1% of line 31, Form 1040	208	-
4 Subtract line 3 from line 2. Enter difference (if less than zero, enter zero)	47	-
5 Enter balance of insurance premiums for medical care not entered on line 1		
6 Enter other medical and dental expenses:		
a Doctors, dentists, nurses, etc.		
b Hospitals		
c Other (itemize—include hearing aids, dentures, eyeglasses, transportation, etc.) ▶	629	-
7 Total (add lines 4 through 6c)	676	-
8 Enter 3% of line 31, Form 1040	624	-
9 Subtract line 8 from line 7 (if less than zero, enter zero)	52	-
10 Total (add lines 1 and 9). Enter here and on line 33 ▶	187	-

Taxes (See page 14 of Instructions.)

11 State and local income	450	-
12 Real estate	840	-
13 State and local gasoline (see gas tax tables)	95	-
14 General sales (see sales tax tables)	557	-
15 Personal property	0	-
16 Other (itemize) ▶	0	-
17 Total (add lines 11 through 16). Enter here and on line 34 ▶	1942	-

Interest Expense (See page 16 of Instructions.)

18 Home mortgage	1267	-
19 Other (itemize) ▶	308	-
20 Total (add lines 18 and 19). Enter here and on line 35 ▶	1575	-

Contributions (See page 16 of Instructions for examples)

21 a Cash contributions for which you have receipts, cancelled checks or other written evidence	2650	-
b Other cash contributions. List donees and amounts. ▶		
22 Other than cash (see page 16 of Instructions for required statement)	57	-
23 Carryover from prior years		
24 Total contributions (add lines 21a through 23). Enter here and on line 36 ▶	2707	-

Casualty or Theft Loss(es) (See page 16 of Instructions.)

25 Loss before insurance reimbursement	180	-
26 Insurance reimbursement	0	-
27 Subtract line 26 from line 25. Enter difference (if less than zero, enter zero)	180	-
28 Enter \$100 or amount on line 27, whichever is smaller	100	-
29 Casualty or theft loss (subtract line 28 from line 27). Enter here and on line 37 ▶	80	-

Miscellaneous Deductions (See page 16 of Instructions.)

30 Union dues	72	-
31 Other (itemize) ▶	305	-
32 Total (add lines 30 and 31). Enter here and on line 38 ▶	377	-

Summary of Itemized Deductions
(See page 17 of Instructions.)

A

33 Total medical and dental—line 10	187	-
34 Total taxes—line 17	1942	-
35 Total interest—line 20	1575	-
36 Total contributions—line 24	2707	-
37 Casualty or theft loss(es)—line 29	80	-
38 Total miscellaneous—line 32	377	-
39 Total deductions (add lines 33 through 38). ▶	6868	-
40 If you checked Form 1040, box: 2 or 5, enter \$3,200 1 or 4, enter \$2,200 3, enter \$1,600	3200	-
41 Excess itemized deductions (subtract line 40 from line 39). Enter here and on Form 1040, line 33. (If line 40 is more than line 39 see "Who MUST Itemize Deductions" on page 11 of the Instructions.) ▶	3668	-

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1040 FEDERAL TAX PROGRAM INCLUDING SCHEDULE 'A' AND SUPPLEMENTAL SCHEDULES 'B', 'C', 'D', AND 'F'.

ANSWER ALL QUESTIONS. IF IT DOESN'T APPLY, OR YOU DON'T HAVE INCOME OR EXEMPTIONS FOR THIS ITEM, ENTER A '0' UNLESS THE QUESTION REQUIRES A 'YES' OR 'NO' ANSWER.

THE 1040 FORM WILL BE DONE FIRST.

ARE YOU MARRIED? N

HOW MANY OTHER DEPENDENTS DO YOU CLAIM? 0

ARE YOU OR YOUR SPOUSE (IF FILING JOINT RETURN) OVER 65.
ENTER A 0, 1, OR 2? 0

ARE YOU OR YOUR SPOUSE (IF FILING JOINT RETURN) BLIND.
ENTER A 0, 1, OR 2? 0

WHAT IS THE GROSS WAGES ON YOUR W-2'S? 21045

WHAT IS YOUR FEDERAL WITHOLDING? 3874

ENTER ALL INTERESTS RECEIVED (FROM SCHEDULE 'B')? 0

ENTER ALL DIVIDENDS RECEIVED (FROM SCHEDULE 'B')? 150

DID YOU ITEMIZE YOUR DEDUCTIONS ON YOUR FEDERAL RETURN LAST YEAR? N

HOW MUCH ALIMONY DID YOU RECEIVE? 0

HOW MUCH BUSINESS INCOME OR LOSS DID YOU RECEIVE. IF LOSS,
ENTER A NEGATIVE AMOUNT.? 0

HOW MUCH DID YOU GAIN OR LOOSE FROM SALE OR EXCHANGE OF CAPITAL ASSETS. IF LOSS, ENTER A NEGATIVE AMOUNT? 0

DID YOU HAVE ANY FARM INCOME OR LOSS. IF LOSS ENTER A NEGATIVE AMOUNT? 0

ENTER ANY MOVING EXPENSE YOU HAD. (INCLUDE WITH YOUR RETURN A '3903' FORM IF ANY)? 0

ENTER PAYMENTS TOWARD A RETIREMENT PLAN. (ATTACH FORM '5329' IF YOU QUALIFY)? 0

ENTER ANY ALIMONY PAYMENTS YOU HAVE MADE AND ARE ENTITLED TO? 0

DID YOU RECEIVE ANY DISABILITY INCOME. (IF NONE, ENTER A '0',
OTHERWISE, ENTER THE AMOUNT)? 0

THIS COMPLETES SIDE '1' OF THE 1040 FORM. NOW WE WILL DO
THE REVERSE SIDE.

ENTER ANY ESTIMATED TAX PAYMENTS YOU MADE FOR LAST YEAR? 0

ENTER THE AMOUNT OF CREDIT FOR THE ELDERLY? 0

ENTER THE AMOUNT OF CREDIT FOR CHILD CARE. (ATTACH FORM
2441 TO RETURN)? 0

ENTER THE AMOUNT OF INVESTMENT CREDIT? 0

THIS COMPLETES THE 1040 QUESTION AND ANSWER SECTION. SCHEDULE 'A'
WILL BE DONE NEXT.

IF YOU DON'T WANT TO ITEMIZE YOUR TAXES, TYPE A '0' OTHERWISE
TYPE A '1'? 0

THE TOTAL NUMBER OF EXEMPTIONS YOU CLAIMED IS 1
YOUR TAXABLE INCOME IS \$ 21195 . LOOK UP THIS AMOUNT IN THE TAX RATE
TABLES X, Y, OR Z AND ENTER YOUR TAX HERE? 4033

THIS FINISHES THE QUESTIONING SECTION OF THE 1040 TAX PROGRAM.
NOW THE PROGRAM WILL PRINT OUT THE TOTALS TO BE USED IN
FILLING OUT YOUR TAX FORMS. THE '1040' FORM WILL BE
FIRST.

DO YOU HAVE HARD COPY (Y OR N)? N

HOW MANY SECONDS DELAY WOULD YOU LIKE
BETWEEN PRINTED LINES (0 = NO DELAY)? 12

THE FOLLOWING ARE THE LINE NUMBERS AND AMOUNTS TO BE ENTERED ON YOUR 1040 FORM.

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LINE NUMBER	AMOUNT	AMOUNT
7		1
8		21045
9		0
10C		150
11		0
12		0
13		0
14		0
19		0
21		21195
22	0	
24	0	
27	0	
28		0
29		21195
30		0
31		21195

THIS IS THE END OF THE FRONT SIDE OF THE 1040 FORM. NOW THE BACK SIDE WILL BE FILLED IN.

32		21195
33		0
34		21195
35		4033
37		4033
39	0	
40	0	
41	0	
46		0
47		4033
54		4033
55	3874	
56	0	
57	0	
62		3874
63		0
64		0
66		159

THIS FINISHES THE '1040' TAX PROGRAM. NOW YOU MUST FILL IN THE BLANKS ON THE APPROPRIATE FORMS AND THEN SIGN THEM IN THE CORRECT PLACES. BE SURE TO INCLUDE ANY AND ALL SUPPORTING FORMS, IF ANY, AND A CHECK IF YOU OWE THE GOVERNMENT ANY TAXES.

THANK YOU FOR ALLOWING ME TO HELP YOU WITH YOUR TAXES THIS YEAR.

1040 U.S. Individual Income Tax Return 1977

For the year January 1—December 31, 1977, or other taxable year beginning

1977 ending

19

Use IRS label. Otherwise, print or type.	First name and initial (if joint return, give first names and initials of both) Jane S.	Last name Harmon	Your social security number 62-37-6218
	Present home address (Number and street, including apartment number, or rural route) 467 S. Bay Drive		Spouse's social security no.
	City, town or post office, State and ZIP code New York / N.J. 01907		Occupation Yours Secretary Spouse's

For Privacy Act Notice, see page 3 of Instructions.

Presidential Election Campaign Fund Do you want \$1 to go to this fund? Yes No
 If joint return, does your spouse want \$1 to go to this fund? Yes No

Note: Checking "Yes" will not increase your tax or reduce your refund.

Filing Status

1	<input checked="" type="checkbox"/>	Single
2	<input type="checkbox"/>	Married filing joint return (even if only one had income)
3	<input type="checkbox"/>	Married filing separately. If spouse is also filing, give spouse's social security number in the space above and enter full name here ▶
4	<input type="checkbox"/>	Unmarried Head of Household. Enter qualifying name ▶
5	<input type="checkbox"/>	Qualifying widow(er) with dependent child (Year spouse died ▶ 19). See page 7 of Instructions.

Check Only One Box

Exemptions

Always check the "Yourself" box. Check other boxes if they apply.

6a	<input checked="" type="checkbox"/>	Yourself	<input type="checkbox"/>	65 or over	<input type="checkbox"/>	Blind	Enter number of boxes checked on 6a and b ▶ 1	
b	<input type="checkbox"/>	Spouse	<input type="checkbox"/>	65 or over	<input type="checkbox"/>	Blind		
c	First names of your dependent children who lived with you ▶						Enter number of children listed ▶	<input type="checkbox"/>
d	Other dependents: (1) Name		(2) Relationship	(3) Number of months lived in your home.	(4) Did dependent have income of \$750 or more?	(5) Did you provide more than one half of dependent's support?	Enter number of other dependents ▶	<input type="checkbox"/>

7 Total number of exemptions claimed **1**

Income

(Attach Forms W-2. If unavailable, see page 5 of Instructions.)

8	Wages, salaries, tips, and other employee compensation.	21045	-
9	Interest income. (If over \$400, attach Schedule B.)	0	-
10a	Dividends (If over \$400, attach Schedule B)	150	-
10b	less exclusion		
10c	Balance ▶		
(See pages 9 and 17 of Instructions)			
(If you have no other income, skip lines 11 through 20 and go to line 21.)			
11	State and local income tax refunds (does not apply if refund is for year you took standard deduction)	0	
12	Alimony received	0	
13	Business income or (loss) (attach Schedule C)	0	
14	Capital gain or (loss) (attach Schedule D)	0	
15	50% of capital gain distributions not reported on Schedule D		
16	Net gain or (loss) from Supplemental Schedule of Gains and Losses (attach Form 4797)		
17	Fully taxable pensions and annuities not reported on Schedule E		
18	Pensions, annuities, rents, royalties, partnerships, estates or trusts, etc. (attach Schedule E)		
19	Farm income or (loss) (attach Schedule F)	0	
20	Other (state nature and source—see page 9 of Instructions) ▶		
21	Total income. Add lines 8, 9, and 10c through 20 ▶	21195	-

Adjustments to Income (If none, skip lines 22 through 27 and enter zero on line 28.)

22	Moving expense (attach Form 3903)	0	
23	Employee business expenses (attach Form 2106)		
24	Payments to an individual retirement arrangement (from attached Form 5329, Part III)	0	
25	Payments to a Keogh (H.R. 10) retirement plan		
26	Forfeited interest penalty for premature withdrawal		
27	Alimony paid (see page 11 of Instructions)	0	
28	Total adjustments. Add lines 22 through 27 ▶	0	
29	Subtract line 28 from line 21	21195	-
30	Disability income exclusion (sick pay) (attach Form 2440)	0	
31	Adjusted gross income. Subtract line 30 from line 29. Enter here and on line 32. If you want IRS to figure your tax for you, see page 4 of the Instructions ▶	21195	-

Tax Computation	32	Amount from line 31	32	21195	-
	33	If you itemize deductions, enter excess itemized deductions from Schedule A, line 41 If you do NOT itemize deductions, enter zero. Caution: If you have unearned income and can be claimed as a dependent on your parent's return, check here <input type="checkbox"/> and see page 11 of the Instructions. Also see page 11 of the Instructions if: ● You are married filing a separate return and your spouse itemizes deductions, OR ● You file Form 4563, OR ● You are a dual-status alien.	33	0	-
	34	Tax Table Income. Subtract line 33 from line 32 Note: See Instructions for line 35 on page 11. Then find your tax on the amount on line 34 in the Tax Tables. Enter the tax on line 35. However, if line 34 is more than \$20,000 (\$40,000 if you checked box 2 or 5) or you have more exemptions than those covered in the Tax Tables for your filing status, use Part I of Schedule TC (Form 1040) to figure your tax. You must also use Schedule TC if you file Schedule G (Form 1040), Income Averaging.	34	21195	-
	35	Tax. Check if from <input checked="" type="checkbox"/> Tax Tables or <input type="checkbox"/> Schedule TC	35	4033	-
	36	Additional taxes. (See page 12 of Instructions.) Check if from <input type="checkbox"/> Form 4970, <input type="checkbox"/> Form 4972, <input type="checkbox"/> Form 5544, <input type="checkbox"/> Form 5405, or <input type="checkbox"/> Section 72(m)(5) penalty tax	36		-
	37	Total. Add lines 35 and 36 ▶	37	4033	-

Credits	38	Credit for contributions to candidates for public office	38		
	39	Credit for the elderly (attach Schedules R&RP)	39	0	
	40	Credit for child and dependent care expenses (attach Form 2441)	40	0	
	41	Investment credit (attach Form 3468)	41	0	
	42	Foreign tax credit (attach Form 1116)	42		
	43	Work Incentive (WIN) Credit (attach Form 4874)	43		
	44	New jobs credit (attach Form 5884)	44		
45	See page 12 of Instructions	45			
46	Total credits. Add lines 38 through 45	46	0		

Other Taxes	47	Balance. Subtract line 46 from line 37 and enter difference (but not less than zero) ▶	47	4033	-
	48	Self-employment tax (attach Schedule SE)	48		
	49	Minimum tax. Check here <input type="checkbox"/> and attach Form 4625	49		
	50	Tax from recomputing prior-year investment credit (attach Form 4255)	50		
	51	Social security tax on tip income not reported to employer (attach Form 4137)	51		
	52	Uncollected employee social security tax on tips (from Form W-2)	52		
	53	Tax on an individual retirement arrangement (attach Form 5329)	53		
54	Total tax. Add lines 47 through 53 ▶	54	4033	-	

Payments	55	Total Federal income tax withheld (attach Forms W-2, W-2G, and W-2P to front)	55	3874	-
	56	1977 estimated tax payments (include amount allowed as credit from 1976 return)	56	0	
	57	Earned income credit. If line 31 is under \$8,000, see page 2 of Instructions. If eligible, enter child's name ▶	57	0	
	58	Amount paid with Form 4868	58		
	59	Excess FICA and RRTA tax withheld (two or more employers)	59		
	60	Credit for Federal tax on special fuels, etc. (attach Form 4136)	60		
	61	Credit from a Regulated Investment Company (attach Form 2439)	61		
61a	See page 13 of Instructions	61a			
62	Total. Add lines 55 through 61a ▶	62	3874	-	

Refund or Due	63	If line 62 is larger than line 54, enter amount OVERPAID ▶	63	0	
	64	Amount of line 63 to be REFUNDED TO YOU ▶	64	0	
	65	Amount of line 63 to be credited on 1978 estimated tax ▶	65		
	66	If line 54 is larger than line 62, enter BALANCE DUE . Attach check or money order for full amount payable to "Internal Revenue Service." Write social security number on check or money order ▶ (Check <input type="checkbox"/> if Form 2210 (2210F) is attached. See page 14 of Instructions.)	66	159	-

Please Sign Here

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. Declaration of preparer (other than taxpayer) is based on all information of which preparer has any knowledge.

Your signature James A. Harman Date _____
 Paid preparer's signature and identifying number (see instructions) _____
 Spouse's signature (if filing jointly, BOTH must sign even if only one had income) _____
 Paid preparer's address (or employer's name, address, and identifying number) _____

BALANCE:

DESCRIPTION

Balance is a computer program for reconciling your bank statements. The program uses the checks and deposit slips returned with your monthly bank statements as well as those items that are outstanding to provide you with a balanced accounting.

USERS

Individuals who want to keep a detailed set of banking records to augment the statements they receive from their bank. Balance will generate supplemental listings whenever you like, NOT just at the end of the month.

INSTRUCTIONS

Balance is tutorial and will give you detailed instructions if listed out. Initially your data must be entered into the program using data statements before running it for the first time. REMEMBER you must delete the sample data already in the program! After each run is completed and the amounts are correct, enter the latest checks and deposits in data statements into the program and save this updated version for the next time you use the program. Study the example carefully and refer to the sample data in the program used to generate the sample run.

LIMITATIONS

Some of the variables used are double alpha characters. In some systems these may have to be changed to an alpha and numeric pair ie: II may have to be changed to I9 - for some systems. With the DIM statements in lines 780 and 790 set for 100 the program will require 16K of memory to execute. The source code is 8K long but may be reduced by omitting the instructions when typing the program into your computer.

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100 REM
110 REM
120 REM DESCRIPTION
130 REM "BALANCE" IS A BASIC PROGRAM THAT RECONCILES A BANK
140 REM STATEMENT BALANCE WITH THOSE CHECKS AND DEPOSITS THAT ARE OUT-
150 REM STANDING, STARTING WITH THE ENDING BALANCE, THE PROGRAM
160 REM SUBTRACTS OUTSTANDING CHECKS AND ADDS OUTSTANDING DEPOSITS TO
170 REM ARRIVE AT THE BOOK BALANCE AT THE END OF THE PERIOD. THE ADJU
STED
180 REM BOOK BALANCE IS THE BOOK BALANCE MINUS SERVICE CHARGES.
190 REM
200 REM INSTRUCTIONS
210 REM THE PROGRAM WILL ASK YOU TO INPUT SOME INFORMATION. FIRS
T,
220 REM IT WILL ASK YOU TO "PLEASE ENTER THE NUMBER AND AMOUNT OF
230 REM EACH CHECK WRITTEN AND ANY OUTSTANDING AT THE BEGINNING
240 REM OF THE PERIOD." AFTER THE QUESTION MARK, YOU TYPE THE CHECK
250 REM NUMBER FOLLOWED BY A COMMA, AND THE CHECK AMOUNT. WHEN YOU HA
VE
260 REM NO MORE INFORMATION TO ENTER, RESPOND TO THE QUESTION MARK
270 REM WITH A "0,0."
280 REM NEXT, THE PROGRAM WILL ASK YOU TO "PLEASE ENTER THE NUMBE
R
290 REM AND AMOUNT OF EACH DEPOSIT AND ANY OUTSTANDING AT
300 REM THE BEGINNING OF THE PERIOD." AFTER THE QUESTION MARK, YOU TY
PE
310 REM THE DEPOSIT NUMBER, FOLLOWED BY A COMMA, AND THE DEPOSIT
320 REM AMOUNT. WHEN YOU HAVE NO MORE INFORMATION TO ENTER, RESPOND
330 REM TO THE QUESTION MARK WITH A "0,0."
340 REM
350 REM
360 REM YOU ENTER DATA INTO THE PROGRAM AS FOLLOWS:
370 REM (1) TYPE THE NUMBER OF THE LINE INTO WHICH YOU WANT TO PUT DA
TA.
380 REM (2) TYPE THE WORD "DATA."
390 REM (3) TYPE THE DATA REMEMBERING TO SEPARATE EACH PIECE OF INFOR
400 REM MATION BY A COMMA.
410 REM THE DATA THAT YOU ENTER INTO THE PROGRAM IS:
420 REM
430 REM LINE NO. TYPE OF INFORMATION
440 REM -----
450 REM 5000 DATA ENDING BALANCE, SERVICE CHARGES
460 REM 5100 DATA CHECK NUMBER, CHECK AMOUNT
470 REM .... DATA ENTER 0,0 INTO A LINE WHEN YOU HAV
E
480 REM NO MORE DATA
490 REM .... DATA DEPOSIT NUMBER, DEPOSIT AMOUNT
500 REM .... DATA 0,0 TO SIGNAL NO MORE DEPOSITS
510 REM
520 REM
530 REM
540 REM IDENTIFICATION OF VARIABLES USED IN THE PROGRAM
550 REM -----
560 REM Z=ENDING BALANCE ON STATEMENT, S=SERVICE CHARGE
570 REM B=NUMBER OF DEPOSITS ON STATEMENT

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580 REM X(1) TO X(100)=CHECK NUMBERS ON STATEMENT
590 REM Z(1) TO Z(100)=CHECK AMOUNTS ON STATEMENT
600 REM Y(1) TO Y(100)=DEPOSIT NUMBERS ON STATEMENT
610 REM R(1) TO R(100)=DEPOSIT AMOUNTS ON STATEMENT
620 REM C( )=CHECK NUMBERS USED BY CUSTOMER
630 REM A( )=CHECK AMOUNTS WRITTEN BY CUSTOMER
640 REM D( ) AND L( )=OUTSTANDING CHECK NUMBERS AND AMOUNTS
650 REM D( )=DEPOSIT NUMBERS USED BY CUSTOMER
660 REM F( )=DEPOSITS MADE BY CUSTOMER
670 REM E( ) AND G( )=OUTSTANDING DEPOSIT NUMBERS AND AMOUNTS
680 REM
690 REM * * * * *
700 REM
710 V$="#####.##"
720 DEFDEL L
730 DEFDEL G
740 DEFDEL O-Z
750 DIM L(100),Q(100)
760 L8=0:N=0:L9=0:R=0
770 REM READ IN STATEMENT INFORMATION
780 DIM X(100),Y(100),C(100),D(100),E(100),A(100),Z(100)
790 DIM R(100),F(100),G(100)
800 REM Z IS ENDING BALANCE
810 REM S IS SERVICE CHARGES
820 READ Z,S
830 REM LOOP TO READ CHECK NOS. AND AMOUNT
840 REM X( ) IS CHECK NOS. ON THE STATEMENT
850 REM Z( ) IS CHECK AMOUNTS ON THE STATEMENT
860 FOR I=1 TO 100
870 READ X(I),Z(I)
880 REM WHEN X( )=0, NO MORE CHECKS
890 IF X(I)=0 THEN 940
900 REM A=TOTAL NO. OF CHECKS ON THE STATEMENT
910 LET A=A+1
920 NEXT I
930 REM LOOP TO READ DEPOSIT NOS. AND AMOUNT
940 FOR I=1 TO 100
950 REM Y( ) IS DEPOSIT NOS. ON THE STATEMENT
960 REM R( ) IS DEPOSIT AMOUNTS ON THE STATEMENT
970 READ Y(I),R(I)
980 REM WHEN Y( )=0, NO MORE DEPOSITS
990 IF Y(I)=0 THEN 1030
1000 REM B=TOTAL NO. OF DEPOSITS ON THE STATEMENT
1010 LET B=B+1
1020 NEXT I
1030 PRINT TAB(12);"RECONCILEMENT OF BANK ACCOUNT"
1040 PRINT
1050 REM INPUT LOOP FOR CHECKS WRITTEN AND OUTSTANDING
1060 PRINT"PLEASE ENTER THE NUMBER AND AMOUNT OF EACH CHECK WRITTEN AND"
1070 PRINT"ANY CHECKS OUTSTANDING AT THE BEGINNING OF THE PERIOD"
1080 PRINT"(ENTER 0,0 WHEN COMPLETED)"
1090 PRINT "ENTER NUMBER, AMOUNT"
1100 FOR I=1 TO 100
1110 REM C( ) IS CHEK NOS. USED BY CUSTOMER
1120 REM A( ) IS CHECK AMOUNTS WRITTEN BY CUSTOMER

```

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```
1130 INPUT C(I),A(I)
1140 IF C(I)=0 THEN 1190
1150 REM L8=TOTAL NO. OF CHECKS USED BY CUSTOMER
1160 LET L8=L8+1
1170 NEXT I
1180 N=0
1190 REM N=TOTAL NO. OF CHECKS OUTSTANDING
1200 REM Q( )=OUTSTANDING CHECK NO.
1210 REM L( )=OUTSTANDING CHECK AMOUNTS
1220 REM CHECK TO SEE IF THOSE CHECKS WHICH HAVE BEEN WRITTEN ARE ON
1230 REM THE STATEMENT
1240 FOR J=1 TO L8
1250 FOR II=1 TO A
1260 IF C(J)=X(II) THEN 1330
1270 NEXT II
1280 N=N+1;Q(N)=C(J);L(N)=A(J)
1290 NEXT J
1300 GOTO 1370
1310 REM FOR THOSE CHECKS USED BY CUSTOMERS AND ON THE STATEMENT, CHECK
1320 REM TO SEE IF AMOUNTS CORRESPOND
1330 IF A(J)=Z(J) THEN 1350
1340 PRINT"CHECK NUMBER";C(J);"MAY BE POSTED INCORRECTLY"
1350 X(II)=0
1360 GOTO 1290
1370 REM
1380 REM COMPUTATION OF S3 WHERE S3=TOTAL AMOUNT OF OUTSTANDING CHECKS
1390 FORI=1TON
1400 LET S3=S3+L(I)
1410 NEXTI
1420 PRINT
1430 PRINT
1440 REM INPUT LOOP FOR DEPOSITS MADE AND OUTSTANDING
1450 PRINT"PLEASE ENTER THE NUMBER AND AMOUNT OF EACH DEPOSIT MADE AND"
1460 PRINT"ANY OUTSTANDING AT BEGINNING OF PERIOD"
1470 PRINT"(ENTER 0,0 WHEN COMPLETED)"
1480 PRINT "ENTER NUMBER, AMOUNT"
1490 FOR I=1 TO 100
1500 REM D( ) IS DEPOSIT NOS. USED BY CUSTOMER
1510 REM F( ) IS DEPOSIT AMOUNTS MADE BY CUSTOMER
1520 INPUT D(I),F(I)
1530 IF D(I)=0 THEN 1570
1540 REM L9=TOTAL NO. OF DEPOSITS MADE AND OUTSTANDING
1550 LET L9=L9+1
1560 NEXT I
1570 FOR J=1 TO L9
1580 FORIX=1TOB
1590 REM CHECK TO SEE IF THOSE DEPOSITS WHICH HAVE BEEN MADE ARE ON
1600 REM THE STATEMENT
1610 IF D(J)=Y(IX) THEN 1720
1620 NEXTIX
1630 REM R=TOTAL NO. OF DEPOSITS OUTSTANDING
1640 LET R=R+1
1650 REM E( ) IS DEPOSIT NO. OUTSTANDING
1660 REM G( ) IS DEPOSIT AMOUNTS OUTSTANDING
1670 LETE(R)=D(J)
```

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```

1680 LET G(R)=F(J)
1690 GOTO1750
1700 REM FOR THOSE DEPOSITS MADE AND ON THE STATEMENT,CHECK TO SEE IF
1710 REM AMOUNTS CORRESPOND
1720 IF F(J)=R(J) THEN 1740
1730 PRINT"DEPOSIT NUMBER";D(J);"MAY BE POSTED INCORRECTLY"
1740 LETY(IX)=0
1750 NEXTJ
1760 REM COMPUTATION OF S4 WHERE S4 =TOTAL AMOUNT OF OUTSTANDING DEPOSIT
TS
1770 FORI=1TOR
1780 LET S4=S4+G(I)
1790 NEXT I
1800 PRINT
1810 PRINT
1820 PRINT"ENDING BALANCE ON STATEMENT";TAB(36);
1830 PRINTUSING V#;Z;
1840 PRINT
1850 REM IF N<1 THEN NO CHECKS OUTSTANDING
1860 IF N<1 THEN 2010
1870 PRINT"SUBSTRACT OUTSTANDING CHECKS:"
1880 PRINT " "; "NUMBER"; " "; "AMOUNT"
1890 IF N=1 THEN 1960
1900 REM THIS LOOP PRINTS OUT THOSE CHECKS OUTSTANDING
1910 FOR I=1 TO (N-1)
1920 PRINT Q(I),
1930 PRINTUSING V#;L(I);
1940 PRINT
1950 NEXT I
1960 PRINT Q(N),
1970 PRINTUSING V#;L(N);
1980 PRINTTAB(36);
1990 PRINTUSING V#;S3;
2000 PRINT
2010 PRINT
2020 REM IF R<1 THEN NO DEPOSITS OUTSTANDING
2030 IF R<1 THEN 2160
2040 PRINT"ADD DEPOSITS OUTSTANDING:"
2050 IF R=1 THEN 2120
2060 REM THIS LOOP PRINTS OUT THOSE DEPOSITS OUTSTANDING
2070 FOR I=1TOR-1
2080 PRINT E(I),
2090 PRINTUSING V#;G(I);
2100 PRINT
2110 NEXT I
2120 PRINT E(R),
2130 PRINTUSING V#;G(R);
2140 PRINT TAB(36);
2150 PRINTUSING V#;S4;
2160 PRINT
2170 PRINT TAB(36); "-----"
2180 REM S9, THE BOOK BALANCE AT THE END OF THE PERIOD, EQUALS THE
2190 REM ENDING BALANCE MINUS THE TOTAL AMOUNT OF OUTSTANDING CHECKS
2200 REM PLUS THE TOTAL AMOUNT OF OUTSTANDING DEPOSITS
2210 LET S9=Z-S3+S4

```

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```
2220 PRINT"BOOK BALANCE AT END OF PERIOD";TAB(36);
2230 PRINTUSING V#;S9;
2240 PRINT
2250 PRINT"SERVICE CHARGES";TAB(36);
2260 REM S=SERVICE CHARGES
2270 REM GOTO FNP IN LINE 118 FOR PRINT ROUTINE
2280 PRINTUSING V#;S;
2290 PRINT
2300 REM Z2, THE ADJUSTED BOOK BALANCE AT THE END OF THE PERIOD, EQUALS
2310 REM THE BOOK BALANCE MINUS SERVICE CHARGES.
2320 LETZ2=Z-S3-S+S4
2330 PRINT TAB(36);"-----"
2340 PRINT"ADJUSTED BOOK BALANCE";TAB(36);
2350 PRINTUSING V#;Z2;
2360 PRINT
2370 PRINT
2380 PRINT
2390 PRINT"REVIEW OUTSTANDING CHECKS AND DEPOSITS FOR CORRECT AMOUNTS!"
2400 REM THIS IS TEST REMOVE IT AND ENTER YOUR OWN DATA
2410 REM TEST - 888,1000, 889,2500, 890,3000, 891,500, 892,1500, 0,0
2420 REM TEST - 620,1000, 621,1000, 622,500, 623,1000, 0,0
2430 REM TEST ADJ. BOOK BALANCE = $ 1840.12
2440 REM
2450 REM *** ENTER YOUR DATA HERE ***
5000 DATA 2345.67,5.55
5100 DATA 888,1000
5200 DATA 889,2000
5300 DATA 890,3000
5400 DATA 0,0
5500 DATA 620,1000
5600 DATA 621,1000
5700 DATA 0,0
5800 END
```



RUN "BALANCE", 1

RECONCILEMENT OF BANK ACCOUNT

PLEASE ENTER THE NUMBER AND AMOUNT OF EACH CHECK WRITTEN AND ANY CHECKS OUTSTANDING AT THE BEGINNING OF THE PERIOD (ENTER 0,0 WHEN COMPLETED)

ENTER NUMBER, AMOUNT

? 888,1000

? 889,2500

? 890,3000

? 891,500

? 892,1500

? 0,0

CHECK NUMBER 889 MAY BE POSTED INCORRECTLY

PLEASE ENTER THE NUMBER AND AMOUNT OF EACH DEPOSIT MADE AND ANY OUTSTANDING AT BEGINNING OF PERIOD (ENTER 0,0 WHEN COMPLETED)

ENTER NUMBER, AMOUNT

? 620,1000

? 621, 1000

? 622,500

? 623,1000

? 0,0

ENDING BALANCE ON STATEMENT \$ 2345.67

SUBSTRACT OUTSTANDING CHECKS:

NUMBER	AMOUNT	
891	\$ 500.00	
892	\$ 1500.00	\$ 2000.00

ADD DEPOSITS OUTSTANDING:

622	\$ 500.00	
623	\$ 1000.00	\$ 1500.00

BOOK BALANCE AT END OF PERIOD \$ 1845.67

SERVICE CHARGES \$ 5.55

ADJUSTED BOOK BALANCE \$ 1840.12

REVIEW OUTSTANDING CHECKS AND DEPOSITS FOR CORRECT AMOUNTS!
OK

CHECKBOOK:

DESCRIPTION

Checkbook is designed to help you balance your checkbook. It may be run whenever needed as it does not require a current bank statement in order to balance your check book.

USERS

Individuals who would like to automate their checkbook or are having trouble keeping it balanced will find checkbook a welcome relief.

INSTRUCTIONS

Before the program is run you must enter your data in data statements as set out in the instructions, after this is done just type RUN and sit back. Detailed instructions may be obtained by listing the program. The program contains two sample runs with data which are almost the same however a mistake has been made in the second example so as to illustrate how the program handles errors.

LIMITATIONS

Lines 105 and 110 in the program contain DEFDBL statements which allow double precision calculations to be computed. If your Basic does not recognize these statements then omit these two lines from the program when loading it into your computer. This program also contains the Print Using V\$ statement throughout the source code. If your Basic does not have this statement then replace it with Print and remove the Using V\$. Some of the variables used are double alpha characters, ie: DV. These variables may have to be changed to an alpha and numeric character pair for some systems. This program will store and execute in 5K Bytes of free memory in most systems.

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```
100 REM CHECKBOOK
105 DEFDEL B-D
110 DEFDEL K-S
115 PRINT CHR$(26):PRINT:PRINT:PRINT "COPYRIGHT 1977 BY - SCIENTIFIC RE
SEARCH ";PRINT:PRINT:PRINT
120 PRINT "IF YOU WANT INSTRUCTIONS TYPE A 1 ELSE A 2 ";:INPUT T
125 IF T<>1 THEN 245
130 PRINT:PRINT:PRINT
135 PRINT "THIS PROGRAM WILL HELP YOU BALANCE YOUR CHECK BOOK,"
140 PRINT "IT IS VERY EASY TO USE AND WILL PROMPT YOU FOR ALL"
145 PRINT "NEEDED INFORMATION, BECAUSE THIS PROGRAM IS NOT FILE"
150 PRINT "INTERACTIVE IT WILL BE NECESSARY FOR YOU TO UPDATE THE"
155 PRINT "PROGRAM EACH TIME BEFORE IT IS RUN AND THEN TO SAVE"
160 PRINT "THE UPDATED VERSION AFTER YOU ARE FINISHED, THEN THE"
165 PRINT "NEXT TIME YOU NEED TO USE THE PROGRAM SIMPLY RUN THE"
170 PRINT "MOST RECENT VERSION, IT WILL BE NECESSARY FOR YOU TO"
175 PRINT "SAVE A NEW COPY EACH TIME OR ELSE YOU WILL HAVE TO REENTER "
180 PRINT "THE CHECKS AND DEPOSITS EACH TIME, AGAIN AND AGAIN."
185 PRINT
190 PRINT "ENTER ALL THE CHECKS YOU HAVE WRITTEN THIS PERIOD IN"
195 PRINT "DATA STATEMENTS STARTING IN LINE 1000, ENTER YOUR NEW"
200 PRINT "DEPOSITS IN DATA STATEMENTS STARTING IN LINE 2000."
205 PRINT "ENTER ALL DEBITS AND SERVICE CHARGES IN LINES 3000."
210 PRINT "ENTER ALL CREDITS IN LINES 4000, AND LINES 5000 TO 5999"
215 PRINT "ARE RESERVED FOR LISTING THE CHECKS THAT HAVE CLEARED"
220 PRINT "ON YOUR ACCOUNT, 6000 TO 6999 ARE RESERVED"
225 PRINT "FOR THE DEPOSITS THAT HAVE CLEARED, IT IS IMPORTANT"
230 PRINT "THAT YOU DON'T REMOVE THE LAST DATA LINE WHICH"
235 PRINT "IS A 0 FOR EACH FIELD."
240 PRINT
245 PRINT:PRINT:PRINT
250 READ CK
255 CV=CV+CK
260 IF CK=0 THEN 275
265 C1=C1+1
270 GOTO 250
275 READ DE
280 DV=DV+DE
285 IF DE=0 THEN 300
290 C2=C2+1
295 GOTO 275
300 READ SE
305 CS=CS+SE
310 IF SE=0 THEN 325
315 C3=C3+1
320 GOTO 300
325 READ CR
330 RC=RC+CR
335 IF CR=0 THEN 350
340 C4=C4+1
345 GOTO 325
350 READ KC
355 CC=CC+KC
360 IF KC=0 THEN 375
365 C5=C5+1
```

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```

370 GOTO 350
375 READ BA:BC=BC+BA
380 IF BA=0 THEN 395
385 C6=C6+1
390 GOTO 375
395 REM THIS IS THE BALANCING SECTION
400 PRINT:PRINT
405 PRINT TAB(20);"FROM YOUR BANK STATEMENT ";PRINT
410 PRINT "WHAT IS YOUR OPENING BALANCE ";;INPUT OF
415 PRINT "WHAT IS YOUR CLOSING BALANCE ";;INPUT CE
420 V$="#####.##"
425 PRINT "WHAT IS THE DATE (IE: 10/23/77) ";;INPUT D$
430 PRINT:PRINT
435 PRINT:PRINT:PRINT:PRINT:PRINT "      C H E C K B O O K      B A L A N
      C I N G      ";PRINT:PRINT
440 PRINT TAB(50);"DATE  ";D$;PRINT:PRINT
445 FOR I=1 TO 72:PRINT "-";NEXT I:PRINT:PRINT:PRINT
450 PRINT "TOTAL AMT. OF CHECKS WRITTEN TO DATE      = ";;PRINTUSING V$;C
      V
455 PRINT "NUMBER WRITTEN TO DATE                  = ";C1
460 PRINT
465 PRINT "TOTAL DEPOSITS MADE TO DATE              = ";;PRINTUSING V$;D
      V
470 PRINT "NUMBER OF DEPOSITS TO DATE                = ";C2
475 PRINT
480 PRINT "TOTAL NUMBER OF DEPOSITS CLEARED TO DATE= ";;PRINTUSING V$;E
      C
485 PRINT "NUMBER CLEARED                            = ";C6
490 PRINT
495 PRINT "OPENING BALANCE THIS PERIOD                  = ";;PRINTUSING V$;O
      P
500 PRINT
505 PRINT "TOTAL SERVICE CHARGES AND DEBITS TO DATE= ";;PRINTUSING V$;C
      S
510 PRINT
515 PRINT "TOTAL CREDITS TO DATE                          = ";;PRINTUSING V$;R
      C
520 PRINT
525 PRINT "TOTAL CHECKS CLEARED TO DATE                  = ";;PRINTUSING V$;C
      C
530 PRINT "NUMBER OF CHECKS CLEARED                      = ";C5
535 PRINT
540 PRINT "NUMBER OF CHECKS OUTSTANDING = ";C1-C5
545 PRINT
550 PRINT "AMOUNT OUTSTANDING AS OF THIS PERIOD        = ";;PRINTUSING V$;C
      V-CC
555 PRINT
560 PRINT "CLOSING BANK BALANCE FOR THIS PERIOD        = ";;PRINTUSING V$;C
      B
565 BB=BC+RC-CS-CC
570 PRINT "CALCULATED BANK BALANCE FOR THIS PERIOD = ";;PRINTUSING V$;B
      B
575 BB=INT(BB*100)/100
580 CB=INT(CE*100)/100
585 IF BB=CB THEN 595

```


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```

590 PRINT:PRINT " ***** THERE IS AN ERROR. CHECK YOUR ENTRIES CAREFULL
    Y ***** "
595 PRINT
600 PRINT
605 PRINT
610 PRINT
615 CZ=DV+RC-CS-CV
620 PRINT "TRUE CHECK BOOK BALANCE FOR THIS PERIOD = ";;PRINTUSING V;;C
    Z
625 PRINT TAB(45);"-----"
630 PRINT
635 PRINT
640 FOR I=1 TO 72:PRINT "--";:NEXT I:PRINT
645 PRINT
650 GOTO 5990
655 REM WITH THE TEST DATA CLOSING BAL. SHOULD BE $ 88.82
660 REM *** REMOVE ALL THE DATA STATEMENTS AND REPLACE THEM
665 REM *** WITH YOUR DATA BEFORE YOU USE THIS PROGRAM
670 REM THESE LINES ARE RESERVED FOR CHECKS THAT HAVE BEEN WRITTEN
1000 DATA 23.16,45.19,78.00,12.07,138.76,19.60
1010 DATA 31.79,25.00,45.19,34.10
1020 DATA 19.21
1030 DATA 0
1990 REM THESE LINES HAVE BEEN RESERVED FOR DEPOSITS
2000 DATA 50,100,75,95,20
2010 DATA 100
2020 DATA 75
2030 DATA 25
2040 DATA 0
2990 REM THESE LINES HAVE BEEN RESERVED FOR DEBITS AND SERVICE CHARGES
3000 DATA .25,.25,.25,.5
3010 DATA .25
3020 DATA 0
3990 REM THESE LINES HAVE BEEN RESERVED FOR CREDITS
4000 DATA 7.16
4010 DATA 0
4990 REM THESE LINES HAVE BEEN RESERVED FOR CHECKS THAT CLEARED
5000 DATA 45.19,78.00,19.60,23.16
5010 DATA 31.79,34.10,25.00
5020 DATA 0
5990 REM THESE LINES RESERVED FOR CLERAED DEPOSITS
6000 DATA 50,100,75
6010 DATA 20,95
6020 DATA 0
6030 END

```

RUN"CHEKBOOK";2

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IF YOU WANT INSTRUCTIONS TYPE A 1 ELSE A 2 ? 1

THIS PROGRAM WILL HELP YOU BALANCE YOUR CHECK BOOK. IT IS VERY EASY TO USE AND WILL PROMPT YOU FOR ALL NEEDED INFORMATION. BECAUSE THIS PROGRAM IS NOT FILE INTERACTIVE IT WILL BE NECESSARY FOR YOU TO UPDATE THE PROGRAM EACH TIME BEFORE IT IS RUN AND THEN TO SAVE THE UPDATED VERSION AFTER YOU ARE FINISHED. THEN THE NEXT TIME YOU NEED TO USE THE PROGRAM SIMPLY RUN THE MOST RECENT VERSION. IT WILL BE NECESSARY FOR YOU TO SAVE A NEW COPY EACH TIME OR ELSE YOU WILL HAVE TO REENTER THE CHECKS AND DEPOSITS EACH TIME, AGAIN AND AGAIN.

ENTER ALL THE CHECKS YOU HAVE WRITTEN THIS PERIOD IN DATA STATEMENTS STARTING IN LINE 1000. ENTER YOUR NEW DEPOSITS IN DATA STATEMENTS STARTING IN LINE 2000. ENTER ALL DEBITS AND SERVICE CHARGES IN LINES 3000. ENTER ALL CREDITS IN LINES 4000. AND LINES 5000 TO 5999 ARE RESERVED FOR LISTING THE CHECKS THAT HAVE CLEARED ON YOUR ACCOUNT. 6000 TO 6999 ARE RESERVED FOR THE DEPOSITS THAT HAVE CLEARED. IT IS IMPORTANT THAT YOU DON'T REMOVE THE LAST DATA LINE WHICH IS A 0 FOR EACH FIELD.

FROM YOUR BANK STATEMENT

WHAT IS YOUR OPENING BALANCE ? 0
WHAT IS YOUR CLOSING BALANCE ? 88.82
WHAT IS THE DATE (IE: 10/23/77) ? 10/23/77

C H E C K B O O K B A L A N C I N G

DATE 10/23/77

TOTAL AMT. OF CHECKS WRITTEN TO DATE	= \$	472.07
NUMBER WRITTEN TO DATE	=	11
TOTAL DEPOSITS MADE TO DATE	= \$	540.00
NUMBER OF DEPOSITS TO DATE	=	8
TOTAL NUMBER OF DEPOSITS CLEARED TO DATE	= \$	340.00
NUMBER CLEARED	=	5
OPENING BALANCE THIS PERIOD	= \$	0.00
TOTAL SERVICE CHARGES AND DEBITS TO DATE	= \$	1.50
TOTAL CREDITS TO DATE	= \$	7.16
TOTAL CHECKS CLEARED TO DATE	= \$	256.84
NUMBER OF CHECKS CLEARED	=	7
NUMBER OF CHECKS OUTSTANDING	=	4
AMOUNT OUTSTANDING AS OF THIS PERIOD	= \$	215.23
CLOSING BANK BALANCE FOR THIS PERIOD	= \$	88.82
CALCULATED BANK BALANCE FOR THIS PERIOD	= \$	88.82
TRUE CHECK BOOK BALANCE FOR THIS PERIOD	= \$	73.59

FROM YOUR BANK STATEMENT

WHAT IS YOUR OPENING BALANCE ? 0
WHAT IS YOUR CLOSING BALANCE ? 88.83
WHAT IS THE DATE (IE: 10/23/77) ? 10/23/77

C H E C K B O O K B A L A N C I N G

DATE 10/23/77

TOTAL AMT. OF CHECKS WRITTEN TO DATE	= \$	472.07
NUMBER WRITTEN TO DATE	=	11
TOTAL DEPOSITS MADE TO DATE	= \$	540.00
NUMBER OF DEPOSITS TO DATE	=	8
TOTAL NUMBER OF DEPOSITS CLEARED TO DATE	= \$	340.00
NUMBER CLEARED	=	5
OPENING BALANCE THIS PERIOD	= \$	0.00
TOTAL SERVICE CHARGES AND DEBITS TO DATE	= \$	1.50
TOTAL CREDITS TO DATE	= \$	7.16
TOTAL CHECKS CLEARED TO DATE	= \$	256.84
NUMBER OF CHECKS CLEARED	=	7
NUMBER OF CHECKS OUTSTANDING	=	4
AMOUNT OUTSTANDING AS OF THIS PERIOD	= \$	215.23
CLOSING BANK BALANCE FOR THIS PERIOD	= \$	88.83
CALCULATED BANK BALANCE FOR THIS PERIOD	= \$	88.82

***** THERE IS AN ERROR. CHECK YOUR ENTRIES CAREFULLY *****

TRUE CHECK BOOK BALANCE FOR THIS PERIOD = \$ 73.59

INSTLO78:

DESCRIPTION

Instlo 78 determines loan parameters that use the rule of 78's. This is the type of loan one would have if purchasing a car, boat, mobile home, etc. It is vastly different from regular compound interest, which is more familiar to most people.

USERS

Individuals planning to buy or who have already bought a large item, such as a car or boat and would like to know what is really owed on the item before buying, trading or selling it.

INSTRUCTIONS

Enter and just type RUN, the program will ask for all required inputs.

LIMITATIONS

This program uses multiple statements per line. Each new statement, within a line, is separated from the last one by a colon. The CHR \$ (26) statement in this program is used to clear the CRT screen. If your system does not use this statement it may be deleted. Several of the variables contained in the source code are double alpha characters and may have to be converted to an alpha and numeric character pair for some systems. The source code will require 2K of memory to store and it will execute in the same 2K Bytes of memory.

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```

10 PRINT CHR$(12):A=12
20 PRINT "THIS CALCULATES INSTALLMENT LOANS (ON THE RULE OF 78'S) "
30 PRINT:PRINT:PRINT "WHAT IS THE AMOUNT YOU ARE GOING TO BORROW (LESS
  INTEREST) ";;INPUT PR
40 PRINT:PRINT "FOR HOW MANY MONTHS ";;INPUT M
50 PRINT:PRINT "AT WHAT INTEREST RATE (IN PERCENTAGE FORM IE:6.25 ) "
  ;INPUT R
60 PRINT:PRINT "WHAT IS THE SALES TAX % ";;INPUT ST
70 PRINT:PRINT "ADD IN ANY OTHER MISC. CHARGES ";;INPUT K
80 PR=PR*(1+ST/100)+K
90 PRINT:PRINT "HOW MUCH DOWN PAYMENT ";;INPUT DF
100 PR=PR-DF
110 PRINT:PRINT:PRINT:PRINT:PRINT "MONTHS ", "MONTHLY/PAYMENT", "TOTAL INT
  EREST":PRINT:PRINT
120 MI=R/1200;MP=PR*MI;IR=(1+MI)^M;PA=MP*IR/(IR-1)
130 PA=INT(100*PA+.01)/100;U=M*PA-PR
140 PRINT M,TAB(A);PA,U
150 PRINT:PRINT:PRINT:PRINT
160 P=PR
170 IY=0;PRINT:PRINT
180 PRINT "PAYMENT", "PAY-OFF", "INTEREST", "TOTAL INT. ", "TOTAL PAID "
190 PRINT:PRINT
200 FOR I=1 TO M
210 IY=MI*P
220 PP=P+IY
230 IT=IT+IY
240 PP=INT(100*PP+.01)/100
250 PRINT I,PP,TAB(24);IY;TAB(39);IT;TAB(54);PA*I
260 P=P-PA+MI*P
270 NEXT I
280 PRINT "THE PAY-OFF ASSUMES YOU MAKE REGULAR MONTHLY PAYMENTS. THIS "
290 PRINT "AMOUNT INCLUDES ALL INTEREST CHARGES. INTEREST IS THE AMOUNT
  "
300 PRINT "OF YOUR REGULAR MONTHLY PAYMENT WHICH DOES NOT REDUCE THE "
310 PRINT "PRINCIPLE. TOTAL INTEREST IS THE AMOUNT YOU OWE TO THE MONTH
  "
320 PRINT "DUE DATE * REGARDLESS * OF HOW YOU MAKE PAYMENTS."
330 END

```



RUN "INSTL78" ; 1

THIS CALCULATES INSTALLMENT LOANS (ON THE RULE OF 78'S)

WHAT IS THE AMOUNT YOU ARE GOING TO BORROW (LESS INTEREST) ? 10000

FOR HOW MANY MONTHS ? 48

AT WHAT INTEREST RATE (IN PERCENTAGE FORM (e.g. 25) ? 9.75

WHAT IS THE SALES TAX % ? 5

ADD IN ANY OTHER MISC. CHARGES ? 75.87

HOW MUCH DOWN PAYMENT ? 250

MONTHS	MONTHLY PAYMENT	TOTAL INTEREST
48	260.65	2185.33

PAYMENT	PAY-OFF	INTEREST	TOTAL INT.	TOTAL PAID
1	10409.8	83.8977	83.8977	260.65
2	10231.6	82.4616	166.359	521.3
3	10051.9	81.0138	247.373	781.95
4	9870.84	79.5543	326.927	1042.6
5	9688.27	78.0828	405.01	1303.25
6	9504.22	76.5995	481.61	1563.9
7	9318.68	75.1041	556.714	1824.55
8	9131.62	73.5965	630.31	2085.2
9	8943.05	72.0767	702.387	2345.85
10	8752.95	70.5446	772.932	2606.5
11	8561.3	68.9999	841.932	2867.15
12	8368.09	67.4428	909.374	3127.8
13	8173.31	65.873	975.247	3388.45
14	7976.95	64.2904	1039.54	3649.1
15	7779	62.695	1102.23	3909.75
16	7579.43	61.0866	1163.32	4170.4
17	7378.25	59.4652	1222.78	4431.05
18	7175.43	57.8305	1280.61	4691.7
19	6970.96	56.1826	1336.8	4952.35

20	6764.83	54.5213	1391.32	5213
21	6557.03	52.8465	1444.17	5473.65
22	6347.54	51.1581	1495.32	5734.3
23	6136.34	49.456	1544.78	5994.95
24	5923.43	47.7401	1592.52	6255.6
25	5709.8	46.0102	1638.53	6516.25
26	5492.41	44.2662	1682.8	6776.9
27	5274.27	42.5081	1725.3	7037.55
28	5054.36	40.7357	1766.04	7298.2
29	4832.65	38.9489	1804.99	7558.85
30	4609.15	37.1476	1842.14	7819.5
31	4383.83	35.3316	1877.47	8080.15
32	4156.68	33.5009	1910.97	8340.8
33	3927.69	31.6553	1942.62	8601.45
34	3696.83	29.7947	1972.42	8862.1
35	3464.1	27.919	2000.34	9122.75
36	3229.48	26.0281	2026.37	9383.4
37	2992.95	24.1218	2050.49	9644.05
38	2754.5	22.2	2072.69	9904.7
39	2514.12	20.2626	2092.95	10165.4
40	2271.78	18.3095	2111.26	10426
41	2027.47	16.3404	2127.6	10686.6
42	1781.17	14.3554	2141.96	10947.3
43	1532.88	12.3543	2154.31	11208
44	1282.56	10.3369	2164.65	11468.6
45	1030.22	8.30309	2172.95	11729.3
46	775.82	6.25277	2179.2	11989.9
47	519.35	4.18579	2183.39	12250.6
48	260.81	2.10202	2185.49	12511.2

THE PAY-OFF ASSUMES YOU MAKE REGULAR MONTHLY PAYMENTS, THIS AMOUNT INCLUDES ALL INTEREST CHARGES. INTEREST IS THE AMOUNT OF YOUR REGULAR MONTHLY PAYMENT WHICH DOES NOT REDUCE THE PRINCIPLE. TOTAL INTEREST IS THE AMOUNT YOU OWE TO THE MONTH DUE DATE * REGARDLESS * OF HOW YOU MAKE PAYMENTS.

OK

DEPREC2:

DESCRIPTION

Deprec2 calculates depreciation for any period of time using any of a number of rates of depreciation. The program handles Straight Line, Sum-of-the-Years Digits, Double Declining Balance and % Declining Balance.

USERS

Individuals interested in maintaining depreciation records over irregular periods of time for use in financial sheets or for tax purposes will find this program very useful.

INSTRUCTIONS

Type RUN and the program will ask for all necessary inputs. A sample run is included after the source code listings.

LIMITATIONS

Deprec2 should execute in 2K Bytes of memory in most systems with little or no modifications.

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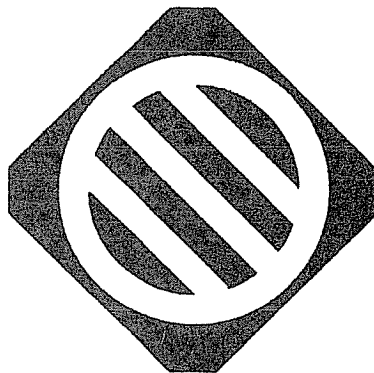
```

10  REM DEPREC2
20  INPUT "THIS DOES DEPREC. 1=ST.LINE; 2=DDB; 3=SYD; >3=%DEC BAL; WHICH"
    $Q
30  PRINT "INPUT - YR ACQ.(1965), MONTH ACQ.(1-12), LIFE YRS., SALVAGE
    VALUE"
40  PRINT "INITIAL COST, PRES. YR., PRES. MONTH "; INPUT M,P,U,D,R,L2,Y
    1
50  PRINT
60  L3=(L2-M)*12-12
70  L4=(Y1+12)-P
80  L5=L3+L4
90  Y2=L5/12; Y3=INT(Y2+1E-03)
100 Y4=INT(12*(Y2-Y3)+1E-03)
110 IF Q>3 THEN 510
120 IF Q=1 THEN 440
130 IF Q=2 THEN 330
140 REM SYD DEPREC.
150 B1=0; B0=0
160 FOR I=1 TO Y3
170 B8=(R-D-B0)*2
180 B7=(U-I+P/6)
190 B0=(B8/B7)+B0
200 NEXT I
210 IF B0>(R-D) THEN 310
220 FOR I=1 TO (Y3+1)
230 B8=(R-D-B1)*2
240 B7=(U-I+P/6)
250 B1=(B8/B7)+B1
260 NEXT I
270 B9=((B1-B0)/12)*Y4
280 B0=B0+B9
290 IF B0>(R-D) THEN 310
300 GOTO 630
310 B0=R-D
320 GOTO 630
330 REM DDB DEPREC
340 B0=0
350 FOR I=1 TO L5
360 B8=2*(R-B0)
370 B7=12*U
380 B0=B0+(B8/B7)
390 NEXT I
400 IF B0>R-D THEN 420
410 GOTO 630
420 B0=R-D
430 GOTO 630
440 REM ST LINE DEPREC.
450 L6=(R-D)/(12*U)
460 B0=L6*L5
470 IF B0>(R-D) THEN 490
480 GOTO 630
490 B0=(R-D)
500 GOTO 630
510 REM % DECLINING BALANCE DEPREC.
520 Q1=Q/100

```

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```
530 B0=0
540 FOR I=1 TO L5
550 B8=Q1*(R-B0)
560 B7=U*12
570 B0=B0+(B8/B7)
580 NEXT I
590 IF B0>(R-D) THEN 610
600 GOTO 630
610 B0=R-D
620 GOTO 630
630 REM GENERATES THE PRINT OUTS
640 PRINT
650 PRINT "ACCUMULATED DEPRECIATION AS OF " ;Y1;"/" ;L2,"= $" ;B0
660 PRINT "UNDEPRECIATED BALANCE LEFT                " ;"= $" ;R-B0
670 PRINT
680 PRINT "ANOTHER ITEM (Y OR N) " ;:INPUT A$
690 IF LEFT$(A$,1)="Y" THEN 710
700 GOTO 740
710 PRINT "WANT YOUR OLD DATA " ;:INPUT B$;IF LEFT$(B$,1) <> "Y" THEN 20
720 PRINT "INPUT - DEF.(1,2,3, OR >3), TOO: YEAR, & MONTH. " ;
730 INPUT Q,L2,Y1;GOTO 50
740 END
```



RUN"DEPREC2",1

THIS DOES DEPREC. 1=ST.LINE; 2=DOB; 3=SYD; >3=%DEC BAL;WHICH? 1
INPUT - YR ACQ.(1965), MONTH ACQ.(1-12), LIFE YRS., SALVAGE VALUE
INITIAL COST, PRES. YR., PRES. MONTH ? 1975,5,7,100,7500,1977,8

ACCUMULATED DEPRECIATION AS OF 8 / 1977 = \$ 2378.57
UNDEPRECIATED BALANCE LEFT = \$ 5121.43

ANOTHER ITEM (Y or N) ? Y

WANT YOUR OLD DATA ? N

THIS DOES DEPREC. 1=ST.LINE; 2=DOB; 3=SYD; >3=%DEC BAL;WHICH? 2
INPUT - YR ACQ.(1965), MONTH ACQ.(1-12), LIFE YRS., SALVAGE VALUE
INITIAL COST, PRES. YR., PRES. MONTH ? 1976,9,7,150,15000,1977,8

ACCUMULATED DEPRECIATION AS OF 8 / 1977 = \$ 3492.75
UNDEPRECIATED BALANCE LEFT = \$ 11507.2

ANOTHER ITEM (Y or N) ? Y

WANT YOUR OLD DATA ? Y

INPUT - DEP.(1,2,3, OR >3), TOO; YEAR, % MONTH. ? 3,1977,8

ACCUMULATED DEPRECIATION AS OF 8 / 1977 = \$ 3960
UNDEPRECIATED BALANCE LEFT = \$ 11040

ANOTHER ITEM (Y or N) ? N

OK

APPENDIX C

FAVORITE PROGRAM

CONVERSIONS

This appendix contains the listings of several of our earlier programs for which we have had repeated requests. As these programs originally appeared in our Volumes I and II they were not fully compatible with the Basics being used with some of the micro-computers. We decided to include these programs here as we feel they may be of interest to the homeowner. The versions included here are identical to the previous listings with the exception of certain statements that have been modified so as to allow them to be run, as is, in most of the Basics that are currently available. It may still be necessary to make minor modifications before these programs will execute in your system but without writing them specifically for one machine it is impossible to completely avoid this problem. For purposes of modification appendix B at the end of Volume V should be helpful.

The programs included here are:

INSTALLMENT	-	Requires 3K of memory
INTEREST	-	Requires 5K of memory
MORTGAGE	-	Requires 4K of memory
REGRESSION	-	Requires 13K of memory
TEACH ME	-	Requires 8K of memory

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```

120 REM-----
130 REM
140 REM DESCRIPTION--- CALCULATES THE MONTHLY PAYMENT SCHEDULE
150 REM FOR AN INSTALLMENT LOAN.
160 REM
170 REM-----
180 REM
190 REM INSTRUCTIONS--- DATA FOR A SAMPLE PROBLEM IS STARTING IN
195 REM LINE 1090,
200 REM TO USE TYPE "RUN",
210 REM ENTER DATA FOR YOUR INSTALLMENT LOANS
220 REM BEGINNING IN LINE 1090 AND "RUN".
230 REM
235 REM
240 REM-----
250 REM
300 V$="#####.##"
310 DEFDEL A-D
320 DEFDEL F
330 DEFDEL S-T
425 REM CALCULATES PAYMENTS FOR AN INSTALLMENT LOAN
429 REM MONTHS OF THE YEAR
430 DIM C$(12)
432 FOR I=1 TO 12
435 READ C$(I)
437 NEXT I
440 READ G$
445 IF G$="FINISH" THEN 9999
450 READ G1$,G2$
455 READ B,B1,C,A,I,R,R1,M
460 LET C3=C
465 LET C8=1
469 REM CHECKS FOR FEE RATHER THAN RATE
470 IF R<1 THEN 485
475 LET A5=R
480 GOTO 495
485 LET A5=(A+I)*R*M/12
489 REM MONTHLY PAYMENT
490 LET T=(I+A+A5)/M
495 IF T*100=INT(T*100) THEN 525
500 LET T=INT(T*100+1)/100
505 IF R<1 THEN 520
510 LET A1=R
515 GOTO 525
519 REM TOTAL PAYMENTS
520 LET A1=T*M-A-I
525 IF A1*100=INT(A1*100) THEN 535
530 LET A2=INT((A1*(I/(A+I)))*100+.5)/100
535 LET D=A1
540 LET E=I
545 PRINT
550 PRINT
555 PRINT TAB(15);"INSTALLMENT LOAN LEDGER"
560 PRINT TAB(15);"-----"
565 PRINT

```

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```

570 PRINT G#
575 PRINT G1#
580 PRINT G2#
585 PRINT
590 PRINT "AMOUNT OF LOAN";
595 PRINT TAB(33);PRINTUSING V#;A;
600 PRINT
605 PRINT "INTEREST";
610 PRINT TAB(33);PRINTUSING V#;A1;
615 PRINT
620 PRINT "INSURANCE";
625 PRINT TAB(33);PRINTUSING V#;I;
630 PRINT
635 PRINT TAB(33);"-----"
638 LET T7=A+A1+I
640 PRINT "FACE AMOUNT OF THE NOTE";
642 PRINT TAB(33);PRINTUSING V#;T7;
645 PRINT
646 PRINT
647 PRINT
650 IF R<1 THEN 665
655 PRINT "FINANCING FEE      ";R
660 GOTO 670
665 PRINT "ADD ON INTEREST RATE      ";R
670 PRINT "EFFECTIVE RATE      ";R1
675 PRINT "DATE OF LOAN IS      ";C#(B);" ";B1;" ";C+1900
680 PRINT "MONTHS TO MATURITY      ";M
685 PRINT "MONTHLY PAYMENT      $ ";
690 PRINT TAB(21);PRINTUSING V#;T;
695 PRINT
700 PRINT
705 PRINT
710 PRINT TAB(0);"DATE";TAB(7);"DATE";TAB(14);"BALANCE";TAB(23);"PAYOFF";
715 PRINT TAB(32);"IRREG";TAB(40);"NEW OR";TAB(48);"UNEARN REMAINING";
720 PRINT TAB(66);"EARNED"
725 PRINT TAB(0);"DUE";TAB(7);"PAID";TAB(14);"REMAIN";TAB(23);"BALANCE";
730 PRINT TAB(32);"PAYMENT";TAB(40);"SHORT";TAB(48);"INSURE";
735 PRINT TAB(56);"INTEREST";TAB(65);"INTEREST"
740 PRINT TAB(0);"-----";TAB(7);"-----";TAB(14);"-----";TAB(23);
745 PRINT "-----";TAB(32);"-----";TAB(40);"-----";TAB(48);"-----";
750 PRINT TAB(57);"-----";TAB(66);"-----"
755 LET Z=B+1
760 LET B5=A1+A+I
765 LET C1=12-B
770 LET C=C+1900
775 PRINT TAB(0);C
780 PRINT
785 PRINT TAB(0);C#(B);TAB(7);"NONE";
790 PRINT TAB(13);PRINTUSING V#;B5;
800 PRINT TAB(22);PRINTUSING V#;A;
810 PRINT TAB(45);PRINTUSING V#;E;
820 PRINT TAB(54);PRINTUSING V#;D;
825 PRINT

```

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```

829 REM CALCULATION AND PRINTING MONTHLY TABLE
830 FOR J=1 TO M
835 LET P=((M-J+1)/(((M+1)/2)*M))*A1
840 LET P=INT(P*100+.5)/100
845 LET S(C8)=S(C8)+P
850 LET F=((M-J+1)/(((M+1)/2)*M))*I
855 LET F=INT(F*100+.5)/100
860 IF J<M THEN 875
865 LET P=D
870 LET F=E
875 LET A=A-(T-P-F)
880 LET A=INT(A*100+.5)/100
884 REM FINAL PAYMENT
885 LET B1=B5
890 LET B5=INT((B5-T)*100+.5)/100
895 IF J<M THEN 905
900 LET B5=A=0
905 LET D=INT((D-P)*100+.5)/100
910 LET E=INT((E-F)*100+.5)/100
915 PRINT TAB(1);C$(Z);
917 IF B5<0 THEN B5=0!
920 PRINT TAB(13);:PRINTUSING V$;B5;
925 IF A<0 THEN A=0!
930 PRINT TAB(22);:PRINTUSING V$;A;
940 PRINT TAB(45);:PRINTUSING V$;E;
950 PRINT TAB(54);:PRINTUSING V$;D;
960 PRINT TAB(63);:PRINTUSING V$;F;
965 PRINT
969 REM CHECK FOR END OF CALENDAR YEAR
970 IF J=M THEN 1030
975 LET Z=Z+1
980 IF J<C1 THEN 1030
985 IF J>C1 THEN 995
990 GOTO 1000
995 IF Z<13 THEN 1030
1000 LET Z=1
1005 LET C=C+1
1010 LET C8=C8+1
1015 PRINT
1020 PRINT TAB(1);C
1025 PRINT
1030 NEXT J
1035 PRINT
1040 IF R<1 THEN 1055
1045 PRINT"FINAL MONTHLY PAYMENT IS $";
1050 PRINT TAB(27);:PRINTUSING V$;B1;
1055 PRINT
1060 FOR J=1 TO C8
1065 PRINT
1070 PRINT"TOTAL INTEREST PAID IN ";(C3+1900+J-1);" IS ";
1075 PRINT TAB(42);:PRINTUSING V$;S(J);
1080 PRINT " %"
1082 NEXT J
1084 DATA JAN,FEB,MAR,APR,MAY,JUNE,JULY
1085 DATA AUG,SEPT,OCT,NOV,DEC

```

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```
1090 DATA "JAMES JONES", "100 CACTUS AVE.", "PHOENIX, ARIZ."  
1100 DATA 7, 01, 72, 2500, 31.91, .06, .11, 12  
9990 DATA "FINISH"  
9991 PRINT "  
9995 GOTO 440  
9999 END
```

INSTALLMENT LOAN LEDGER

JAMES JONES
100 CACTUS AVE.
PHOENIX, ARIZ.

AMOUNT OF LOAN	2500.00
INTEREST	152.01
INSURANCE	31.91
<hr/>	
FACE AMOUNT OF THE NOTE	2683.92

ADD ON INTEREST RATE .06
EFFECTIVE RATE .11
DATE OF LOAN IS JULY 1, 1972
MONTHS TO MATURITY 12
MONTHLY PAYMENT \$ 223.66

DATE DUE	DATE PAID	BALANCE REMAIN	PAYOFF BALANCE	IRREG PAYMENT	NEW OR SHORT	UNEARN INSURE	REMAINING INTEREST	EARNED INTEREST
1972								
JULY	NONE	2683.92	2500.00			31.91	152.01	
AUG		2460.26	2304.64			27.00	128.62	23.39
SEPT		2236.60	2106.92			22.50	107.18	21.44
OCT		2012.94	1906.84			18.41	87.69	19.49
NOV		1789.28	1704.40			14.73	70.15	17.54
DEC		1565.62	1499.60			11.46	54.56	15.59
1973								
JAN		1341.96	1292.44			8.60	40.92	13.64
FEB		1118.30	1082.92			6.15	29.23	11.69
MAR		894.64	871.05			4.10	19.49	9.74
APR		670.98	656.83			2.46	11.69	7.80
MAY		447.32	440.25			1.23	5.84	5.85
JUNE		223.66	221.31			0.41	1.94	3.90
JULY		0.00	0.00			0.00	0.00	1.94

TOTAL INTEREST PAID IN 1972 IS 97.45 %
TOTAL INTEREST PAID IN 1973 IS 54.57 %

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```

5  X$="#####.##"
10 REM INTEREST
12 REM
14 REM  DESCRIPTION---COMPUTES AND PRINTS THE ACCRUED INTEREST
15 REM                      ON INSTALLMENT LOANS.
16 REM
18 REM  INSTRUCTIONS ---DATA BEGINS IN LINE 1000 AND CONSISTS OF
20 REM                      UNEARNED INTEREST BY MONTH OF MATURITY.
22 REM
24 REM*****
    ****
26 REM
30 DIM C$(55),D(100),R$(55)
60 GOTO 440
70 PRINT USING X$;N9;
75 N0=N9
430 RETURN
440 FOR I=1 TO 12
450 READ C$(I)
455 NEXT I
460 PRINT"WHAT IS THE CURRENT MONTH AND YEAR(E.G. 12,1972)";
470 INPUT A,A1
480 IF A1>99 THEN 500
490 LET A1=A1+1900
500 PRINT
510 LET N=12-A+1
520 LET Z=A
530 PRINT TAB(12);"EARNED INTEREST - INSTALLMENT LOANS"
540 PRINT TAB(12);"-----"
550 PRINT "MONTH OF";TAB(20);"EARNED";TAB(40);"REMAINING UNEARNED"
560 PRINT "MATURITY";TAB(20);"INTEREST";TAB(40);"INTEREST"
570 PRINT "-----";TAB(20);"-----";TAB(40);"-----"
575 PRINT
580 PRINT A1
585 REM  **** MAXIMUM MATURITY 4 YEARS  ****
590 FOR J=1 TO N+48
600 READ P
605 REM  FORMULA FOR SUM OF MONTHS DIGITS  ****
610 LETS=INT(P*(Z/(J+1))*100+.5)/100
620 LET T=T +S
630 LET R=P-S
640 LET R1=R1+R
650 PRINT " ";C$(Z);TAB(18);
660 N9=S
663 GOSUB 70
666 S=N0
670 PRINT TAB(40);
680 N9=R
683 GOSUB 70
686 R=N0
690 PRINT
700 LET Z=Z+1
710 IF J=72+N THEN 800
720 IF J<N THEN 800
730 IF J>N THEN 750

```

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```
740 GOTO 760
750 IF Z<13 THEN 800
760 LET Z=1
770 LET A1=A1+1
780 PRINT
785 IF J=N+48 THEN 800
790 PRINT A1
800 NEXT J
810 PRINT TAB(20); "-----" ; TAB(42); "-----"
820 PRINT "TOTALS" ; TAB(18);
830 N9=T
833 GOSUB 70
836 T=N0
840 PRINT TAB(40);
850 N9=R1
853 GOSUB 70
856 R1=N0
860 PRINT
870 DATA JANUARY,FEBRUARY,MARCH,APRIL,MAY,JUNE,JULY,AUGUST
880 DATA SEPTEMBER,OCTOBER,NOVEMBER,DECEMBER
890 REM
900 REM ENTER TOTAL UNEARNED INTEREST IN DATA STARTING AT LINE 1000
910 REM FOR EACH MONTH OF MATURITY IN CHRONOLOGICAL ORDER.
1000 DATA 800.50,98.35,150.55,270.66,27.77,56.29
1010 DATA 2.65,193.42,362.4,609.55,832.39,936.14
1020 DATA 654.66,1146.61,1521.3,1226.52,2083.25,2455.6
1030 DATA 1350.4,1597.11,2537.63,2362.95,5755.1,5203.83
1040 DATA 4856.7,5819.73,2490.84,3283.03,4817.39,1927.29
1050 DATA 1867.08,2090.91,3912.03,7773.25,5414.98,11028.33
1060 DATA 4660.57,7371.53,2572.17,3190.66,3712.78,927.05
1070 DATA 0,0,790.34,360.38,0,844.86
1080 DATA 0,0,898.64,0,0,426.69
1090 DATA 0,271.43,0,0,0,0
1100 END
```

DON" INTEREST", 1

WHAT IS THE CURRENT MONTH AND YEAR (E.G. 12, 1972) 8/1, 1977

EARNED INTEREST - INSTALLMENT LOANS

MONTH OF MATURITY	EARNED INTEREST	REMAINING UNEARNED INTEREST
1977		
AUGUST	\$ 800.50	\$ 0.00
SEPTEMBER	\$ 65.57	\$ 32.78
OCTOBER	\$ 75.28	\$ 75.27
NOVEMBER	\$ 108.26	\$ 162.40
DECEMBER	\$ 9.26	\$ 18.51
1978		
JANUARY	\$ 16.08	\$ 40.21
FEBRUARY	\$ 0.66	\$ 1.99
MARCH	\$ 42.98	\$ 150.44
APRIL	\$ 72.48	\$ 289.92
MAY	\$ 110.83	\$ 498.72
JUNE	\$ 138.73	\$ 693.66
JULY	\$ 144.02	\$ 792.12
AUGUST	\$ 93.52	\$ 561.14
SEPTEMBER	\$ 152.88	\$ 993.73
OCTOBER	\$ 190.16	\$ 1331.14
NOVEMBER	\$ 144.30	\$ 1082.22
DECEMBER	\$ 231.47	\$ 1851.78
1979		
JANUARY	\$ 258.48	\$ 2197.12
FEBRUARY	\$ 135.04	\$ 1215.36
MARCH	\$ 152.11	\$ 1445.00
APRIL	\$ 230.69	\$ 2306.94
MAY	\$ 205.47	\$ 2157.48
JUNE	\$ 479.59	\$ 5275.51
JULY	\$ 416.31	\$ 4787.52
AUGUST	\$ 373.59	\$ 4483.11
SEPTEMBER	\$ 431.09	\$ 5388.64
OCTOBER	\$ 177.92	\$ 2312.92
NOVEMBER	\$ 226.42	\$ 3056.61
DECEMBER	\$ 321.16	\$ 4496.23

1980		
JANUARY	\$ 124.34	\$ 1802.95
FEBRUARY	\$ 116.69	\$ 1750.39
MARCH	\$ 126.71	\$ 1964.19
APRIL	\$ 236.17	\$ 3681.91
MAY	\$ 444.19	\$ 7329.06
JUNE	\$ 300.93	\$ 5114.15
JULY	\$ 596.13	\$ 10432.20
AUGUST	\$ 245.29	\$ 4415.28
SEPTEMBER	\$ 378.03	\$ 6993.50
OCTOBER	\$ 128.61	\$ 2443.56
NOVEMBER	\$ 155.64	\$ 3035.02
DECEMBER	\$ 176.80	\$ 3535.98

1981		
JANUARY	\$ 43.12	\$ 883.93
FEBRUARY	\$ 0.00	\$ 0.00
MARCH	\$ 0.00	\$ 0.00
APRIL	\$ 34.36	\$ 755.98
MAY	\$ 15.34	\$ 345.04
JUNE	\$ 0.00	\$ 0.00
JULY	\$ 34.48	\$ 810.38
AUGUST	\$ 0.00	\$ 0.00
SEPTEMBER	\$ 0.00	\$ 0.00
OCTOBER	\$ 34.56	\$ 864.08
NOVEMBER	\$ 0.00	\$ 0.00
DECEMBER	\$ 0.00	\$ 0.00

TOTALS	\$ 8990.10	\$ 103856.00
OK		

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```

120 REM
130 REM DESCRIPTION---THIS BASIC PROGRAM COMPUTES AND PRINTS
140 REM MORTGAGE SCHEDULES FOR VARIOUS MORTGAGE
150 REM TERMS.
160 REM
170 REM INSTRUCTIONS---ALL DATA IS ENTERED AS INPUT DURING RUN.
180 REM
190 REM*****
200 REM
210 DIM Z(10),R(10),Y(10)
220 DIM P(15)
300 V$="#####,##"
310 X$="#####,##"
400 DEFDBL A-E
410 DEFDBL O-Z
450 Z$="#,###"
520 REM
530 PRINT "AMOUNTS TO BE CONSIDERED";
535 Z0=1
540 INPUT Z(Z0)
542 IF Z(Z0)=0 THEN 560
544 Z0=Z0+1
546 GOTO 540
560 PRINT "RATES TO BE CONSIDERED";
561 Z0=Z0-1
565 R0=1
570 INPUT R(R0)
572 IF R(R0)=0 THEN 590
574 R0=R0+1
576 GOTO 570
590 PRINT "YEARS TO BE CONSIDERED";
591 R0=R0-1
595 Y0=1
600 INPUT Y(Y0)
602 IF Y(Y0)=0 THEN 620
604 Y0=Y0+1
606 GOTO 600
620 PRINT
621 Y0=Y0-1
630 PRINT
640 PRINT
650 PRINT
660 PRINT
670 FOR J1=1 TO Z0
680 LET A = Z(J1)
690 PRINT
700 PRINT "FOR A LOAN OF ";
710 PRINT USING X$;A;
720 PRINT
730 PRINT
740 PRINT
750 PRINT " NUMBER DECREASE INCREASE "
760 PRINT "INTEREST OF MONTHLY TOTAL MONTHLY TOTAL "
770 PRINT " RATE YEARS PAYMENT INTEREST PAYMENT INTEREST "
780 FOR J2 = 1 TO R0

```

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```
790 PRINT
800 LET R3 = R(J9)/1200
810 LET M2 = 0
820 FOR J3 = 1 TO Y0
830 LET M = (A*R3) / (1-(1/(1+R3)(12*Y(J3))))
840 LET I1 = M*12*Y(J3) -A
850 PRINT USING Z#;R(J9);
860 PRINT "%";
870 PRINT USING V#;Y(J3);
880 PRINT USING V#;M;
890 PRINT USING V#;I1;
900 IF M2 = 0 THEN 930
910 PRINT USING V#;M1-M;
920 PRINT USING V#;I1-I2;
930 LET M1 = M
940 LET I2 = I1
950 LET M2 = 1
960 PRINT
970 NEXT J3
980 PRINT
990 NEXT J9
1000 PRINT
1010 NEXT J1
1020 PRINT "DO YOU WISH TO CONSIDER ANOTHER SET OF TERMS";
1030 INPUT Z#
1040 IF Z# >= "Y" THEN 530
1050 END
```

RUN "MORTGAGE" *1

AMOUNTS TO BE CONSIDERED? 19500

? 30000

? 50000

? 100000

? 0

RATES TO BE CONSIDERED? 6.75

? 7.25

? 7.75

? 8.25

? 9.0

? 0

YEARS TO BE CONSIDERED? 10

? 20

? 25

? 30

? 0

FOR A LOAN OF \$ 19500.00

INTEREST RATE	NUMBER OF YEARS	MONTHLY PAYMENT	TOTAL INTEREST	DECREASE MONTHLY PAYMENT	INCREASE TOTAL INTEREST
6.7500%	10.00	223.91	7369.02		
6.7500%	20.00	148.27	16085.20	75.64	8716.18
6.7500%	25.00	134.73	20918.50	13.54	4833.27
6.7500%	30.00	126.48	26031.70	8.25	5113.25
7.2500%	10.00	228.93	7971.97		
7.2500%	20.00	154.12	17489.70	74.81	9517.74
7.2500%	25.00	140.95	22784.30	13.18	5294.60
7.2500%	30.00	133.02	28388.90	7.92	5604.56
7.7500%	10.00	234.02	8582.91		
7.7500%	20.00	160.09	18920.80	73.94	10337.80
7.7500%	25.00	147.29	24687.10	12.80	5766.30
7.7500%	30.00	139.70	30792.40	7.59	6105.37
8.2500%	10.00	239.17	9200.37		
8.2500%	20.00	166.15	20376.40	73.02	11176.00
8.2500%	25.00	153.75	26624.10	12.40	6247.69
8.2500%	30.00	146.50	33238.70	7.25	6614.62
9.0000%	10.00	247.02	10142.50		
9.0000%	20.00	175.45	22607.50	71.57	12465.00
9.0000%	25.00	163.64	29593.30	11.80	6985.77
9.0000%	30.00	156.90	36984.70	6.74	7391.48

FOR A LOAN OF \$ 30000.00

INTEREST RATE	NUMBER OF YEARS	MONTHLY PAYMENT	TOTAL INTEREST	DECREASE MONTHLY PAYMENT	INCREASE TOTAL INTEREST
6.7500%	10.00	344.47	11337.00		
6.7500%	20.00	228.11	24746.50	116.36	13409.50
6.7500%	25.00	207.37	32182.30	20.84	7435.81
6.7500%	30.00	194.58	40948.80	12.69	7866.54
7.2500%	10.00	353.20	12364.60		
7.2500%	20.00	237.11	26907.20	116.09	14642.70
7.2500%	25.00	216.84	35052.80	20.27	8145.53
7.2500%	30.00	204.85	43675.20	12.19	8622.40
7.7500%	10.00	360.04	13204.50		
7.7500%	20.00	246.27	29108.90	113.75	15904.40
7.7500%	25.00	226.60	37980.10	19.69	8871.24
7.7500%	30.00	214.92	47373.00	11.68	9392.88
8.2500%	10.00	367.95	14154.40		
8.2500%	20.00	255.62	31348.30	112.34	17193.90
8.2500%	25.00	236.53	40960.10	19.08	9611.83
8.2500%	30.00	225.38	51136.40	11.15	10176.30
9.0000%	10.00	380.03	15603.80		
9.0000%	20.00	269.92	34780.70	110.11	19176.90
9.0000%	25.00	251.76	45528.10	18.16	10747.30
9.0000%	30.00	241.39	56899.60	10.37	11371.50

FOR A LOAN OF \$ 50000.00

INTEREST RATE	NUMBER OF YEARS	MONTHLY PAYMENT	TOTAL INTEREST	DECREASE MONTHLY PAYMENT	INCREASE TOTAL INTEREST
6.7500%	10.00	574.12	18894.90		
6.7500%	20.00	380.18	41244.10	193.94	22349.20
6.7500%	25.00	345.46	53637.10	34.73	12393.00
6.7500%	30.00	324.30	66748.00	21.16	13110.90
7.2500%	10.00	587.01	20440.90		
7.2500%	20.00	395.19	44845.40	191.82	24404.50
7.2500%	25.00	361.40	58421.30	33.78	13575.90
7.2500%	30.00	341.09	72792.00	20.32	14370.70
7.7500%	10.00	600.06	22007.40		
7.7500%	20.00	410.48	48514.70	189.58	26507.30
7.7500%	25.00	377.67	63300.20	32.81	14785.40
7.7500%	30.00	358.21	78954.90	19.46	15654.80

8.2500%	10.00	613.26	23590.70		
8.2500%	20.00	476.03	52247.10	187.23	28656.40
8.2500%	25.00	494.07	68246.80	31.81	16019.70
8.2500%	30.00	375.63	85227.40	18.59	16960.60
9.0000%	10.00	633.39	26006.40		
9.0000%	20.00	449.87	57767.90	183.52	31961.50
9.0000%	25.00	419.30	75880.10	30.27	17912.20
9.0000%	30.00	402.31	94832.70	17.29	18952.50

FOR A LOAN OF \$ 100000.00

INTEREST RATE	NUMBER OF YEARS	MONTHLY PAYMENT	TOTAL INTEREST	DECREASE MONTHLY PAYMENT	INCREASE TOTAL INTEREST
6.7500%	10.00	1148.25	37789.90		
6.7500%	20.00	760.37	82488.20	387.88	44698.30
6.7500%	25.00	690.91	107274.00	69.45	24786.00
6.7500%	30.00	648.60	133496.00	42.31	26221.80
7.2500%	10.00	1174.02	40881.90		
7.2500%	20.00	790.38	89690.80	383.64	48808.90
7.2500%	25.00	722.81	116843.00	67.57	27151.80
7.2500%	30.00	682.18	145584.00	40.63	28741.30
7.7500%	10.00	1200.12	44014.90		
7.7500%	20.00	820.96	97029.50	379.17	53014.60
7.7500%	25.00	755.33	126600.00	65.62	29570.80
7.7500%	30.00	716.42	157910.00	38.92	31309.60
8.2500%	10.00	1226.51	47181.40		
8.2500%	20.00	852.06	104494.00	374.45	57312.90
8.2500%	25.00	788.45	136534.00	63.61	32039.40
8.2500%	30.00	751.26	170455.00	37.18	33921.10
9.0000%	10.00	1266.77	52012.80		
9.0000%	20.00	899.73	115936.00	367.04	63923.00
9.0000%	25.00	839.20	151760.00	60.53	35824.50
9.0000%	30.00	804.63	189665.00	34.58	37905.00

DO YOU WISH TO CONSIDER ANOTHER SET OF TERMS? N
OK

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25 PRINT
26 PRINT
27 PRINT
28 PRINT
100 DATA .43,.55,.55,.55,.54,.52,.62,.6,.5,.55,.52,.53,.4
101 DATA .46,.57,.59,.49,.45,.48,.47,.46,.61,.59,.6,.57
102 DATA .64,.62,.54,.66,.64
200 DATA 75,66,67,70,64,65,67,63,70,65,73,73,88
201 DATA 75,90,77,72,70,63,66,67,57,55,51,53,58,51,51,54,54
300 DATA 9.4,7.8,8.1,8.3,8.6,8,8.8,8.7,8.7,8.9,8.8,8,8
301 DATA 8.7,8.6,8.7,8.1,8.5,8.6,8.3,8.9,8.9,8.6,8.7,8.4,1.2,8.4
302 DATA 8.3,7.8,8.5
400 DATA 2.04,1.36,1.36,1.36,1.36,1.36,1.36,1.36,1.59,1.59,1.59,1.59
    ,1.59
401 DATA 1.59,1.13,1.13,1.59,1.59,1.59,1.59,1.59,1.59,1.02
402 DATA 1.02,1.02,1.13,1.13,1.13,1.36,1.13,1.13
700 READ E1
701 IF E1 = 1E+38 THEN 1101
702 RESTORE
703 PRINT "DO YOU WANT INSTRUCTIONS (0=NO, 1=YES)... WHICH ";
704 INPUT O0
705 IF O0 = 0 THEN 709
707 PRINT "N=# VALUES, R=# IN VARIABLES, S=# OUT VARIABLES, D IS A CO
    DE"
708 PRINT "VALUE (IE: 1 = TRANSFORMS HAVE BEEN SPECIFIED, 0 = OTHERWI
    SE.)"
709 PRINT " N, R, S, D = ";
710 INPUT P1,R1,N1,D
711 DIM Y(8,100),Z(8,100),S(8,8),T(8,8),W(7,7),H(8,8)
712 DIM B(7,2),F(8,2),E(8,8)
713 LETN=N1-1
714 LETR=R1-1
715 LETP=P1-1
716 IFD=1THEN 721
717 LETN=R
718 FORI=1TON+1:FORJ9=1TOP+1:READZ(I,J9):NEXTJ9:NEXTI
719 GOSUB 818
720 GOTO 732
721 FORI=1TOR+1:FORJ9=1TOP+1:READY(I,J9):NEXTJ9:NEXTI
722 GOSUB 818
723 FORK=1TOP+1
724 FORL=1TOR1
725 LETV(L)=Y(L,K)
726 NEXTL
727 GOSUB 1000
728 FORL=1TON1
729 LETZ(L,K)=X(L)
730 NEXTL
731 NEXTK
732 FORI=1TO3:FORJ9=1TOP+1:Y(I,J9)=0:NEXTJ9:NEXTI
733 LETP2=1/P1
734 FORI=1TON+1:FORJ9=1TON+1:S(I,J9)=0:T(I,J9)=0:NEXTJ9:NEXTI
735 FORI=1TON+1:F(I,1)=0:NEXTI
736 FORI=1TON:FORJ9=1TON:W(I,J9)=0:NEXTJ9:NEXTI
738 FORI=1TON:B(I,1)=0:NEXTI

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739 FORK=1TOP+1
740 FORI=1TON+1
741 LETF(I,1)=F(I,1)+P2*Z(I,K)
742 FORJ=1TOK-1
743 LETS(I,J)=S(I,J)+Z(I,K)*Z(J,K)
744 NEXTJ
745 NEXTI
746 NEXTK
747 FORI=1TON+1
748 FORJ=1TON+1
749 LETT(I,J)=S(I,J)-P1*F(I,1)*F(J,1)
750 NEXTJ
751 NEXTI
752 FORJ=1TON+1
753 LETG(J)=SQR(P2*TT(J,J))
754 NEXTJ
755 FORI=1TON;FORJ9=1TON;S(I,J9)=0;NEXTJ9;NEXTI
756 FORI=1TON
757 FORJ=1TON
758 LETS(I,J)=T(I+1,J+1)
759 NEXTJ;NEXTI
760 REM *****
761 GOSUB 1350
763 FORI=1TON;FORJ=1TON
764 LETB(I,1)=B(I,1)+T(1,J+1)*W(I,J)
765 NEXTJ
766 NEXTI
767 LETA=F(1,1)
768 LETS7=0
769 LETS8=0
770 FORI=1TON
771 LETA=A-B(I,1)*F(I+1,1)
772 NEXTI
773 FORK=1TOP+1
774 LETY(1,K)=A
775 FORJ=1TON
776 LETY(1,K)=Y(1,K)+B(J,1)*Z(J+1,K)
777 NEXTJ
778 LETY(2,K)=Y(1,K)-Z(1,K)
779 LETY(3,K)=100*Y(2,K)/Y(1,K)
780 LETS7=S7+Y(2,K)
781 LETS8=S8+Y(2,K)^2
782 NEXTK
783 LETW8=P2*SQR(P1*S8-S7^2)
784 LETW7=P2*S7
785 PRINT
786 PRINT"      M U L T I V A R I A T E   C U R V E   F I T"
787 PRINT
788 PRINT
789 PRINT"VARIABLE","REGR COEFF","MEAN VALUE","STD DEV"
790 PRINT
791 PRINT" 1 (CONSTANT =" ;A; ")" ;F(1,1),G(1)
792 PRINT
793 FORI=1TON
794 PRINTI+1,B(I,1),F(I+1,1),G(I+1)

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795 NEXTI
796 PRINT
797 PRINT
798 PRINT"      STANDARD DEVIATION OF RESIDUALS = ";W8
799 PRINT"      INDEX OF DETERMINATION (R-SQ) = ";1-(W8/G(1))^2
800 PRINT"      ZERO-CHECK ON MEAN RESIDUAL = ";W7
801 PRINT
802 PRINT
803 PRINT"      A C T U A L      V S      C A L C U L A T E D"
804 PRINT"      "
805 PRINT"ACTUAL", "CALCULATED", "DIFFERENCE", " PCT DIFFER"
806 PRINT
807 FORK=1TOP+1
808 PRINTZ(1,K),Y(1,K),Y(2,K),
809 LETQ=,1*SGN(Y(3,K))*INT(ABS(10*Y(3,K)))
810 IFQ=0THEN 815
811 IFQ<0THEN 813
812 PRINT"      "
813 PRINTQ
814 GOTO 816
815 PRINT"      ,0"
816 NEXTK
817 STOP
818 READE1
819 IFE1=1E+38THEN 824
820 PRINT
821 PRINT"WRONG AMOUNT OF DATA SPECIFIED? PLEASE CHECK."
822 RESTORE
823 GOTO 703
824 RETURN
825 STOP
1000 PRINT"NO TRANSFORMS"
1100 RETURN
1101 PRINT
1102 PRINT
1103 PRINT"-----"
1104 DATA 1E38, 0,0,0,0,0,0,0
1105 GOTO 9999
1350 REM THESE FOUR SUBS CALCULATE THE INVERSE MATRIX
1351 FOR IK=1 TO N:FOR IL=1 TO N
1352 W(IK,IL)=S(IK,IL)
1353 NEXT IL:NEXT IK
1354 NN=N:GOSUB 2000:U8=U7
1355 IF N<1 THEN 1900
1360 IF N>3 THEN GOSUB 1400
1363 IF N=1 THEN 1890
1364 IF N=3 THEN GOSUB 1800
1365 FOR II=1 TO N:FOR IJ=1 TO N
1368 IF N=2 THEN 1372
1370 W(II,IJ)=E(IJ,II)/U8:GOTO 1375
1372 W(II,IJ)=S(N+1-IJ,N+1-II)/U8
1373 IF II=IJ THEN 1375
1374 W(II,IJ)=-W(II,IJ)
1375 NEXT IJ:NEXT II:RETURN
1400 REM COFACTOR OF MATRIX N>3

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1410 NN=N-1
1411 SG=1
1415 FOR IC=1 TO N:FOR ID=1 TO N
1417 X=1:Y=1
1420 FOR IE=1 TO N
1421 FOR IG=1 TO N
1425 IF IE=IC THEN 1450
1430 IF IG=ID THEN 1450
1440 W(X,Y)=S(IE,IG)
1441 Y=Y+1:IF Y>NN THEN 1444
1442 GOTO 1450
1444 Y=1:X=X+1
1450 NEXT IG:NEXT IE
1460 GOSUB 2000
1465 H(IC,ID)=U7
1470 NEXT ID:NEXT IC
1475 FOR IU=1 TO N:FOR IY=1 TO N
1480 E(IU,IY)=H(IU,IY)
1482 E(IU,IY)=E(IU,IY)*SG:SG=-SG
1485 NEXT IY:NEXT IU:RETURN
1800 REM COFACTOR SECTION N<4
1810 W(1,1)=S(2,2)*S(3,3)-S(2,3)*S(3,2)
1815 W(2,1)=S(1,3)*S(3,2)-S(1,2)*S(3,3)
1820 W(3,1)=S(1,2)*S(2,3)-S(1,3)*S(2,2)
1825 W(1,2)=S(3,1)*S(2,3)-S(2,1)*S(3,3)
1830 W(2,2)=S(1,1)*S(3,3)-S(1,3)*S(3,1)
1835 W(3,2)=S(2,1)*S(1,3)-S(1,1)*S(2,3)
1840 W(1,3)=S(2,1)*S(3,2)-S(3,1)*S(2,2)
1845 W(2,3)=S(3,1)*S(1,2)-S(1,1)*S(3,2)
1850 W(3,3)=S(1,1)*S(2,2)-S(2,1)*S(1,2)
1855 FOR IK=1 TO N:FOR IL=1 TO N
1865 E(IK,IL)=W(IK,IL)
1870 NEXT IL:NEXT IK:RETURN
1890 W(1,1)=1/S(1,1):RETURN
1900 W(1,1)=1:RETURN
1999 REM DETERMINATE OF N DIMENSION MATRIX
2000 SI=1
2010 NM=NN-1
2015 IF NM<=0 THEN 2401
2020 FOR J1=1 TO NM
2025 TE=0
2030 FOR J2=J1 TO NN
2035 IF ABS(W(J2,J1))<TE THEN 2121
2040 TE=ABS(W(J2,J1))
2045 IB=J2
2047 IF N=2 THEN IB=J1
2121 NEXT J2
2130 IF TE<>0 THEN 2201
2135 U7=0:GOTO 2501
2201 IF J1=IB THEN 2301
2210 FOR J2=J1 TO NN
2215 TE=W(J1,J2)
2220 W(J1,J2)=W(IB,J2)
2221 W(IB,J2)=TE
2225 NEXT J2:SI=-SI

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2301 N1=J1+1
2310 FOR J2=N1 TO NN
2314 TE=W(J2,J1)/W(J1,J1)
2317 FOR J3=N1 TO NN
2321 W(J2,J3)=W(J2,J3)-W(J1,J3)*TE
2325 NEXT J3:NEXT J2
2391 NEXT J1
2401 U7=1
2410 FOR J1=1 TO NN
2421 U7=U7*W(J1,J1)
2425 NEXT J1:U7=U7*SI
2501 IF U7<>0 THEN 2550
2510 U7=,99999
2550 RETURN
9999 END
```

DO YOU WANT INSTRUCTIONS (0=NO, 1=YES)... WHICH ? 1
 N=# VALUES, R=# IN VARIABLES, S=# OUT VARIABLES, D IS A CODE
 VALUE (IE: 1 = TRANSFORMS HAVE BEEN SPECIFIED, 0 = OTHERWISE.)
 N, R, S, D = ? 30,4,0,0

M U L T I V A R I A T E C U R V E F I T

VARIABLE	REGR COEFF	MEAN VALUE	STD DEV
1 (CONSTANT = .936729)		.543333	.0663989
2	-1.42546E-03	65.6667	9.91068
3	-4.03627E-03	8.24334	1.35662
4	-.193223	1.37933	.241536

STANDARD DEVIATION OF RESIDUALS = .0343456
 INDEX OF DETERMINATION (R-SQ) = .732439
 ZERO-CHECK ON MEAN RESIDUAL = 1.39078E-07

A C T U A L V S C A L C U L A T E D

ACTUAL	CALCULATED	DIFFERENCE	PCT DIFFER
.43	.397705	-.0322953	-8.1
.55	.548383	-1.61666E-03	-.2
.55	.545747	-4.25297E-03	-.7
.55	.540664	-9.33659E-03	-1.7
.54	.548005	8.00526E-03	1.4
.52	.549002	.0290016	5.2
.62	.542922	-.0770783	-14.1
.6	.549027	-.0509729	-9.2
.5	.494608	-5.39231E-03	-1
.55	.500928	-.0490723	-9.7
.52	.489928	-.0300723	-6.1
.53	.493157	-.0368433	-7.4
.4	.471775	.0717749	15.2
.46	.48748	.0274804	5.6
.57	.555385	-.0146154	-2.6
.59	.573512	-.0164881	-2.8
.49	.494179	4.17852E-03	.8
.45	.495415	.045415	9.1
.48	.50499	.0249895	4.9
.47	.501924	.031924	6.3
.46	.498077	.0380768	7.6
.61	.622468	.0124683	2
.59	.62653	.0365301	5.8
.6	.631828	.0318283	5
.57	.608934	.0389338	6.3
.64	.630868	-9.13233E-03	-1.4
.62	.611785	-8.21531E-03	-1.3
.54	.567747	.027747	4.8
.66	.60993	-.0500699	-8.2
.64	.607105	-.0328953	-5.4

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```

50 PRINT CHR$(26):PRINT:PRINT
75 CLEAR 1000
100 V7=0
125 PRINT "WELCOME TO TEACH THE COMPUTER THE ANIMALS"
150 PRINT "WHEN YOU ARE READY TO LEAVE TYPE - STOP"
175 PRINT "IF YOU WOULD LIKE A LISTING OF ALL THE "
200 PRINT "ANIMALS YOU HAVE TAUGHT ME TYPE - LIST"
225 PRINT "WHEN ASKED - ARE YOU THINKING OF AN ANIMAL,"
250 PRINT
275 PRINT "THINK OF AN ANIMAL AND I WILL TRY TO GUESS IT...."
300 N=3
325 DIM A$(50),B$(50),Q(50)
330 DIM Z$(50)
350 A$(0)=STR$(4)
375 FOR I=1 TO 3
400 READ A$(I)
425 NEXT I
450 DATA "/QDOES IT SWIM/Y2/N3","/AFISH","/ABIRD"
475 PRINT
500 PRINT
525 PRINT "ARE YOU THINKING OF AN ANIMAL.;"
550 INPUT Z9$
575 GOTO 3075
600 K=1
625 IF V7=0 THEN 675
650 GOTO 700
675 GOSUB 2050
700 GOSUB 2900
725 IF LEN(A$(K))=0 THEN 775
750 GOTO 800
775 GOSUB 2050
800 B$(2)=MID$(A$(K),1,2)
825 IF B$(2)="/Q" GOTO 625
850 E$=A$(K)
875 F2=LEN(A$(K))-2
900 I9=3
925 GOSUB 4575
950 PRINT "IS IT A "$K$;
975 B$(3)=K$
1000 INPUT Z7$
1025 Z7$=MID$(Z7$,1,1)
1050 IF Z7$="Y" GOTO 1100
1075 GOTO 1175
1100 PRINT
1125 PRINT " ** I'AM VERY PROUD OF MYSELF. ** "
1150 GOTO 475
1175 PRINT "THE ANIMAL YOU WERE THINKING OF WAS A ";
1200 INPUT Z9$
1225 PRINT "PLEASE TYPE IN A SIMPLE QUESTION THAT WOULD "
1250 PRINT "DISTINGUISH A "Z9$" FROM A "B$(3)
1275 N=N+2
1300 INPUT Z8$
1325 PRINT "THIS WOULD BE A VALID QUESTION FOR A "Z9$;
1350 INPUT Z7$
1375 Z7$=MID$(Z7$,1,1)

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1400 IF Z7#="Y" GOTO 1500
1425 IF Z7#="N" GOTO 1550
1450 PRINT "PLEASE ANSWER 'YES' OR 'NO' "
1475 GOTO 1325
1500 Z6#="N"
1525 GOTO 1625
1550 PRINT " NO! O.K. .... ."
1575 Z6#="Y"
1600 GOTO 1625
1625 Z1=VAL(A$(0))
1650 A$(0)=STR$(Z1+2)
1675 A$(Z1)=A$(K)
1700 A$(Z1+1)="/" + Z9#
1725 H$(1)="/" + Z8#
1750 H$(2)=H$(1) + "/"
1775 H$(1)=H$(2) + Z7#
1800 H$(3)=STR$(Z1+1)
1825 H$(2)=H$(1) + H$(3)
1850 H$(1)=H$(2) + "/"
1875 H$(2)=H$(1) + Z6#
1900 H$(4)=STR$(Z1)
1925 H$(1)=H$(2) + H$(4)
1950 A$(K)=H$(1)+"/"
1975 GOTO 500
2000 GOTO 2825
2050 REM
2075 F#="/"
2100 E#=A$(K)
2125 F1=3
2150 GOSUB 4075
2175 F2=E9-3
2200 I9=3
2225 GOSUB 4575
2250 B$(4)=K#
2260 IF V7=0 THEN 2825
2275 PRINT B$(4);
2300 INPUT Z9#
2325 Z9#=MID$(Z9#,1,1)
2350 IF Z9#<>"Y" GOTO 2400
2375 GOTO 2425
2400 Z9#="N"
2425 F#="/" + Z9#
2450 E#=A$(K)
2475 F1=3
2500 GOSUB 4075
2525 Z1=E9+2
2550 F1=Z1
2575 F#="/"
2600 E#=A$(K)
2625 GOSUB 4075
2650 Z2=E9
2675 F2=ABS(Z2-Z1)
2700 I9=Z1
2725 GOSUB 4575
2750 B$(K)=K#

```

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2775 Z6=VAL(B$(K))
2800 REM
2825 V7=1
2850 RETURN
2900 GOSUB 2050
2910 K=Z6
2925 RETURN
3050 REM THIS SUB CHECKS FOR A VALID ANSWER
3075 B$=MID$(Z9$,1,1)
3100 IF B$="Y" GOTO 600
3125 IF B$="L" GOTO 3350
3150 IF B$="N" GOTO 500
3175 IF B$="S" THEN 4950
3200 PRINT "PLEASE ANSWER YES OR NO!..."
3225 GOTO 500
3350 REM THIS IS THE LIST SUB
3375 PRINT
3400 PRINT
3425 PRINT "THE ANIMALS THAT I ALREADY KNOW ARE:"
3450 PRINT
3475 FOR I=1 TO N
3500 E$=A$(I)
3525 F$="/A"
3550 F1=1
3575 F2=LEN(E$)
3600 I9=3
3625 GOSUB 4075
3650 IF E9=0 GOTO 3900
3675 S$=E$
3725 F3=LEN(E$)
3730 F3=F3-2
3850 J$=MID$(S$,3,F3)
3875 PRINT J$,
3900 NEXT I
3925 PRINT
3950 GOTO 475
4075 REM THIS IS THE INSTR(F1,E$,F$) SUB.
4100 REM F$ IS THE TO BE MATCHED STRING "SE"
4125 REM F1 IS THE STARTING POSITION IN THE E$ STRING
4150 REM THIS SUB RETURNS E9 =0 IF NOT FOUND, ELSE POSITION #
4175 F2=LEN(F$)
4200 F3=LEN(E$)
4225 F4=F3-F2+1
4250 FOR I9=F1 TO F4
4275 GOSUB 4575
4300 F$(1)=K$
4325 IF F$(1)=F$ GOTO 4425
4350 NEXT I9
4375 E9=0
4400 GOTO 4450
4425 E9=I9
4450 RETURN
4575 REM THIS SUB SETS THE CHAR LENGTH
4600 REM K$=MID$(E$,I9,F2)
4650 REM THIS SUB RETURNS K$ AS OUTPUT.

```

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```
4850 K$=MID$(E$,I9,F2)
4875 RETURN
4950 PRINT
4975 PRINT
5000 PRINT "THANK YOU COME AGAIN  ."
5025 PRINT
5050 END
```


WELCOME TO TEACH THE COMPUTER THE ANIMALS
WHEN YOU ARE READY TO LEAVE TYPE - STOP
IF YOU WOULD LIKE A LISTING OF ALL THE
ANIMALS YOU HAVE TAUGHT ME TYPE - LIST
WHEN ASKED - ARE YOU THINKING OF AN ANIMAL,

THINK OF AN ANIMAL AND I WILL TRY TO GUESS IT....

ARE YOU THINKING OF AN ANIMAL? Y
DOES IT SWIM? N
IS IT A BIRD? N
THE ANIMAL YOU WERE THINKING OF WAS A ? HORSE
PLEASE TYPE IN A SIMPLE QUESTION THAT WOULD
DISTINGUISH A HORSE FROM A BIRD
? DOES IT GALLOP
THIS WOULD BE A VALID QUESTION FOR A HORSE? Y

ARE YOU THINKING OF AN ANIMAL? Y
DOES IT SWIM? N
DOES IT GALLOP? N
IS IT A BIRD? N
THE ANIMAL YOU WERE THINKING OF WAS A ? DOG
PLEASE TYPE IN A SIMPLE QUESTION THAT WOULD
DISTINGUISH A DOG FROM A BIRD
? DOES IT BARK
THIS WOULD BE A VALID QUESTION FOR A DOG? Y

ARE YOU THINKING OF AN ANIMAL? LIST

THE ANIMALS THAT I ALREADY KNOW ARE:

FISH HORSE BIRD DOG

ARE YOU THINKING OF AN ANIMAL? Y
DOES IT SWIM? N
DOES IT GALLOP? N
DOES IT BARK? Y
IS IT A DOG? Y

** I AM VERY PROUD OF MYSELF. **

ARE YOU THINKING OF AN ANIMAL? Y
DOES IT SWIM? N
DOES IT GALLOP? N
DOES IT BARK? N
IS IT A BIRD? N
THE ANIMAL YOU WERE THINKING OF WAS A ? CAT
PLEASE TYPE IN A SIMPLE QUESTION THAT WOULD
DISTINGUISH A CAT FROM A BIRD
? DOES IT PURR
THIS WOULD BE A VALID QUESTION FOR A CAT? Y

ARE YOU THINKING OF AN ANIMAL? LIST

THE ANIMALS THAT I ALREADY KNOW ARE:

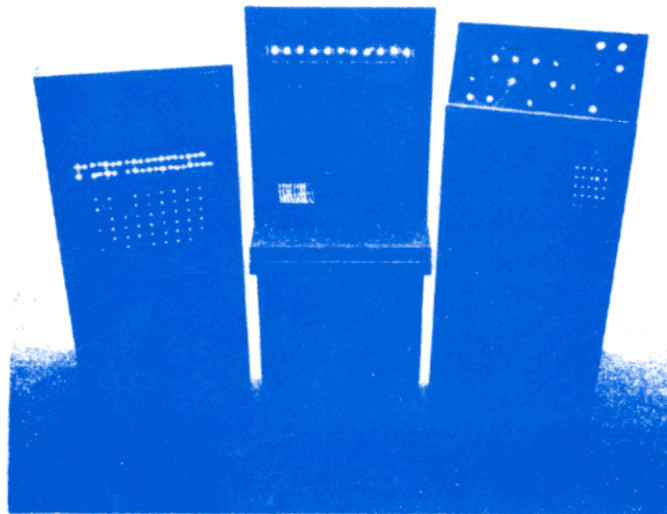
FISH HORSE DOG BIRD CAT

ARE YOU THINKING OF AN ANIMAL? STOP

THANK YOU COME AGAIN .

OK

RELIABLE COMPUTER SOFTWARE



FOR YOUR DOWN TO EARTH TASKS