



## Systems Reference Library

### **IBM 7090/7094 IBSYS Operating System Sorting Times for the Generalized Sorting System**

This publication contains tables of timing information for use with the IBM 7090/7094 Generalized Sorting System. Values are given so that both process time and tape time can be considered. The tape time tables include figures for both 729 Magnetic Tape and 7340 Hypertape.

These tables are for use with the IBM 7090 and IBM 7094 Model I Data Processing Systems.

## PREFACE

This publication contains timing tables for the IBM 7090/7094 Generalized Sorting System. A brief description of the structure of Sort is given for background information. The publication *IBM 7090/7094 IBSYS Operating System, Generalized Sorting System*, Form C28-6365, contains information for understanding and operating the 7090/7094 Sort System, and lists the required machine configuration. The reader is presumed to be familiar with the contents of that publication.

Copies of this and other IBM publications can be obtained through IBM Branch Offices.  
Address comments concerning the contents of this publication to:  
IBM Corporation, Programming Systems Publications, Dept. D91, PO Box 390, Poughkeepsie, N. Y. 12602

### 7090/7094 Generalized Sorting System

The IBM 7090/7094 Generalized Sorting System (Sort) is a program for sorting either fixed-length or variable-length records written in either binary or decimal mode. Sort operates under the IBSYS System Monitor of the 7090/7094 IBSYS Operating System. The control fields of the records may be signed or unsigned. The records may be sorted in ascending or descending order using either the scientific or commercial collating sequence. Input to Sort may consist of blocked or unblocked records and may be contained on one or more reels of tape.

#### Organization of Sort

The 7090/7094 Sort consists basically of four phases.

1. Edit Phase reads and analyzes control cards to check for accuracy and consistency of information. It also calculates sizes of necessary storage tables and determines the subprograms needed for other phases.

2. Phase 1 (Internal Sort Phase) reads input records, sorts them into ordered strings or sequences of records, and writes the strings alternately on merge tapes.

3. Phase 2 (Merge Phase) merges, in successive passes, records written by Phase 1 until there is only one ordered string on each output tape.

4. Phase 3 (Final Merge Phase) merges either output strings produced by Phase 2 or previously sorted external files, or both, into one ordered file whose output is blocked as specified by control cards.

#### Timing Tables

Timing tables in this publication appear in two parts: the first is for the IBM 7090 and the second for the IBM 7094 Model I. Each part contains tables for several record sizes ranging from 3-word to 2,000-word records. Each table contains the following information or categories of information:

COLUMN HEADING	EXPLANATION
Order of Merge	Sort run merge order (from two through six).
No. of CTL Words	Number of words of the logical record in which control fields appear.
BLKG	Number of logical records blocked to form a tape record during merge passes (i.e., internal blocking factor).
Average String Length	Average number of records written in one string (or sequence) by Phase 1.
Process Time	Average time (in milliseconds) to sort a logical record. For Phases 1 and 3, which are one-pass phases, the listed

#### COLUMN HEADING

#### EXPLANATION

Tape Time in MS/RCD

time is that for each record. For Phase 2, which may be a multipass phase, the listed time is that for each record per merge pass.

Average time (in milliseconds) to start tape and read a logical record. Values are given for 729 IV Magnetic Tape having an input/output transmission rate of 62,500 characters per second (cps), for 729 VI Magnetic Tape having an input/output transmission rate of 90,000 cps, and for 7340 Hypertape having an input/output transmission rate of 1,700,000 cps.

Maximum Number of Records in Thousands

Sort capacity or number of records that may be handled in a given Sort run. The given figures are to be multiplied by 1,000 to give the capacity. Values are given for 729 IV Magnetic Tape having a tape density of 556 characters per inch (cpi), for 729 VI Magnetic Tape having an 800 cpi tape density, and for 7340 Hypertape with a 1,511 cpi tape density. Capacity calculations are based on a full reel of the tape used.

When calculating the total Sort time, the larger of the two times (process or tape) must be used. Occasionally process time may be used for one or more phases while tape time is used for other phases.

#### Assumptions

Timing tables are based on the following assumptions:

1. There are 32,768 locations available in core storage.
2. There are no storage locations reserved for uses other than Sort.
3. Input consists of fixed-length records.
4. Input to Sort is in random order.
5. A given Sort run uses only one of the following kinds of tape units: 729 IV Magnetic Tape Unit, 729 VI Magnetic Tape Unit, 7340 Hypertape Drive. Sort capacity calculations are based on a full reel of the tape unit used.
6. The input blocking factor, the internal blocking factor, and the output blocking factor are equal. If the input blocking factor or the output blocking factor, or both, are less than the internal blocking factor (given in the timing tables), the timing table tape times for the phases involved must be increased to compensate for the extra interrecord gap time.
7. An extra merge pass to satisfy an output channel requirement is not necessary.
8. There have been no options specified on OPTION control cards.

## Merge Passes

Records are written from Phase 1 in ordered merge blocks. Blocks containing records that are sorted with respect to each other constitute a string or sequence. The number, S, of strings produced by Phase 1 equals the total number, N, of input records divided by the average string length, L. The number, P, of Phase 2 merge passes required to merge a given number, S, of sequences for each of several merge orders, M, is given in Table 1. Blanks in the table indicate combinations beyond the capacity of 7090/7094 Sort.

Table 1. Phase 2 Merge Passes Required for a Given Number of Sequences

NUMBER OF PHASE 2 MERGE PASSES	NUMBER OF SEQUENCES FOR MERGE ORDER OF:				
	2	3	4	5	6
0	2	3	4	5	6
1	4	9	16	25	36
2	8	27	64	125	216
3	16	81	256	625	1296
4	32	243	1024		
5	64	729			
6	128				
7	256				
8	512				

Examples:

For a merge order of 4, 64 strings (or sequences) require 2 merge passes, but 65 strings require 3 merge passes (since with a merge order of 4, 3 passes are required when the value of S is such that  $64 < S \leq 256$ ).

For 26 strings, 2 merge passes are required when the merge order is 3, 4, or 5.

## Using the Timing Tables

The following procedure is used for calculating total Sort time for a particular application.

1. Determine appropriate table based on record length.

2. Determine appropriate section of table based on merge order and number of control words.

3. Determine number of merge passes using average string length.

4. Calculate total rewind time (R).

a. For 729 IV or VI Magnetic Tape Units:

If reel is more than one-third full, use

R = 0.9 minute.

If reel is less than one-third full, use

$$R = \frac{P+1}{60,000} \left( \frac{N}{M} \cdot t \right) \text{ minutes}$$

where:

P equals number of merge passes

N equals total number of records

M equals merge order

t equals tape time from table

b. For 7340 Hypertape Drives:

If number of merge passes is odd, there is no rewind time.

If the number of merge passes is even, rewind time at end of Phase 2 is given by

$$R = \frac{N}{13,500M} \left( \frac{6L}{1,511} + \frac{3}{5B} \right) \text{ minutes}$$

where:

N equals total number of records

M equals merge order

L equals record length

B equals blocking (number of records per merge block)

5. Calculate Total Sort time (T)

Use the formula

$$T = (T_1 + PT_2 + T_3 + R + C + E) \text{ minutes}$$

where:

T<sub>1</sub> is Phase 1 time and is

$$T_1 = \left[ (N \times P_1) \times \frac{1}{60,000} + 0.07 \right] \text{ minutes}$$

P is number of Phase 2 merge passes

T<sub>2</sub> is Phase 2 time and is

$$T_2 = \left[ (N \times P_2) \times \frac{1}{60,000} + 0.04 \right] \text{ minutes}$$

T<sub>3</sub> is Phase 3 time and is

$$T_3 = \left[ (N \times P_3) \times \frac{1}{60,000} + 0.03 \right] \text{ minutes}$$

In the preceding equations for T<sub>1</sub>, T<sub>2</sub>, and T<sub>3</sub>, the indicated parameters are:

N = number of records in Sort run

P<sub>1</sub> = Phase 1 process time or tape time, whichever is larger

P<sub>2</sub> = Phase 2 process time or tape time, whichever is larger

P<sub>3</sub> = Phase 3 process time or tape time, whichever is larger

R is rewind time previously computed

C is checkpoint time and is

C = 0.12 minute for 729 IV Magnetic Tape

C = 0.09 minute for 729 VI Magnetic Tape

C = 0.05 minute for 7340 Hypertape

E is sum of Edit Phase time, loading time, and Post-processor time

For a sort or sort-and-merge run:

E = 0.36 minute using 729 IV Magnetic Tape

E = 0.25 minute using 729 VI Magnetic Tape

E = 0.28 minute using 7340 Hypertape

For a merge-only run:

E = 0.25 minute using 729 IV Magnetic Tape

E = 0.17 minute using 729 VI Magnetic Tape

E = 0.17 minute using 7340 Hypertape

If Phase 2 is bypassed in a Sort run:

E = 0.30 minute using 729 IV Magnetic Tape

E = 0.21 minute using 729 VI Magnetic Tape

E = 0.22 minute using 7340 Hypertape

Two examples are given to illustrate use of the preceding equations and timing tables.

*Example 1*

Machine mode	IBM 7090
Logical record length	10 words
File size	50,000 records
Merge order	3
Number of Control Words	1
Blocking (BLKG)	200 logical records per tape block
Checkpoints being taken?	no (i.e., C = 0)
Tape drive	729 VI

1. Determine number of strings produced by Phase 1

$$S = \frac{N}{L} = \frac{50,000}{2,380} = 21.1. \text{ Round off to 22.}$$

2. From Table 1, for merge order 3, 22 strings require 2 merge passes (i.e., P=2).

3. From 7090 timing tables, calculate

$$T_1 = (50,000 \times 0.91) \times \frac{1}{60,000} + 0.07 \dots = 0.83 \text{ minute}$$

$$PT_2 = 2((50,000 \times 0.70) \times \frac{1}{60,000} + 0.04) \dots = 1.25 \text{ minutes}$$

$$T_3 = (50,000 \times 0.71) \times \frac{1}{60,000} + 0.04 \dots = 0.63 \text{ minute}$$

$$R = \frac{2 + 1}{60,000} \left( \frac{50,000}{3} \times 0.70 \right) \dots = 0.58 \text{ minute}$$

The value of E for this problem is 0.25 minute

$$T = \text{total sorting time} \dots = 3.54 \text{ minutes}$$

In this example, tape time is used for Phase 2 since it is larger than Phase 2 process time.

*Example 2*

Machine mode	IBM 7094 I
Logical record length	5 words
File size	80,000 records
Merge order	4
Number of control words	1
Blocking (BLKG)	400 logical records per tape block
Tape drive	7340 Hypertape
Checkpoints being taken?	no (i.e., C = 0)

1. Determine number of strings produced by Phase 1

$$S = \frac{N}{L} = \frac{80,000}{3,400} = 23.5. \text{ Round off to 24.}$$

2. From Table 1, for merge order 4, 24 strings require 2 merge passes (i.e., P=2).

3. From 7094 timing tables, calculate

$$T_1 = (80,000 \times 0.78) \times \frac{1}{60,000} + 0.07 \dots = 1.11 \text{ minutes}$$

$$PT_2 = 2((80,000 \times 0.47) \times \frac{1}{60,000} + 0.04) \dots = 1.33 \text{ minutes}$$

$$T_3 = (80,000 \times 0.58) \times \frac{1}{60,000} + 0.04 \dots = 0.81 \text{ minute}$$

$$R = \frac{80,000}{13,500 \times 4} \left( \frac{6 \times 5}{1,511} + \frac{3}{5 \times 400} \right) \dots = 0.03 \text{ minute}$$

The value of E for this problem is 0.28 minute

$$T = \text{total sorting time} \dots = 3.56 \text{ minutes}$$

In this example, process time is used for all three phases.

# APPENDIX. 7090/7094 SORT TIMING TABLES

## 7090 Sort Timing Tables

7090 SORT TIMING TABLE										RECORD LENGTH 3 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	667	4535	0.82	0.47	0.57	0.30	0.21	0.11	805	1150	1666
	2		3401	0.91	0.58	0.68						
	3		2267	0.99	0.69	0.79						
3	1	667	4535	0.83	0.48	0.59	0.30	0.21	0.11	1610	2300	3333
	2		3401	0.91	0.59	0.70						
	3		2267	1.00	0.70	0.81						
4	1	667	4535	0.83	0.49	0.60	0.32	0.23	0.13	2415	3450	5000
	2		3401	0.92	0.60	0.71						
	3		2267	1.00	0.71	0.83						
5	1	667	4535	0.84	0.50	0.62	0.32	0.23	0.13	3220	4600	6666
	2		3401	0.92	0.61	0.73						
	3		2267	1.00	0.73	0.84						
6	1	667	4535	0.84	0.51	0.63	0.32	0.23	0.13	4025	5750	8333
	2		3401	0.93	0.63	0.75						
	3		2267	1.01	0.74	0.86						

7090 SORT TIMING TABLE										RECORD LENGTH 4 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	500	3400	0.83	0.48	0.59	0.40	0.28	0.15	603	862	1250
	2		3400	0.92	0.59	0.70						
	3		2550	1.00	0.70	0.81						
3	1	500	3400	0.84	0.49	0.60	0.40	0.28	0.15	1207	1725	2500
	2		3400	0.92	0.60	0.72						
	3		2550	1.01	0.71	0.83						
4	1	500	3400	0.84	0.50	0.62	0.42	0.31	0.17	1811	2587	3750
	2		3400	0.93	0.61	0.73						
	3		2550	1.01	0.72	0.84						
5	1	500	3400	0.85	0.51	0.64	0.42	0.31	0.17	2415	3450	5000
	2		3400	0.93	0.62	0.75						
	3		2550	1.02	0.73	0.86						
6	1	500	3400	0.85	0.52	0.65	0.42	0.31	0.17	3018	4312	6250
	2		3400	0.94	0.63	0.76						
	3		2550	1.02	0.75	0.87						

7090 SORT TIMING TABLE										RECORD LENGTH 5 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	400	3400	0.85	0.49	0.61	0.50	0.35	0.19	483	690	1000
	3		2720	1.01	0.71	0.83						
	5		2040	1.18	0.93	1.05						
3	1	400	3400	0.85	0.50	0.62	0.50	0.35	0.19	966	1380	2000
	3		2720	1.02	0.72	0.84						
	5		2040	1.19	0.94	1.07						
4	1	400	3400	0.86	0.51	0.64	0.53	0.38	0.21	1449	2070	3000
	3		2720	1.02	0.73	0.86						
	5		2040	1.19	0.96	1.08						
5	1	400	3400	0.86	0.52	0.65	0.53	0.38	0.21	1932	2760	4000
	3		2720	1.03	0.74	0.87						
	5		2040	1.20	0.97	1.10						
6	1	400	3400	0.86	0.53	0.67	0.53	0.38	0.21	2415	3450	5000
	3		2720	1.03	0.76	0.89						
	5		2040	1.20	0.98	1.11						

7090 SORT TIMING TABLE										RECORD LENGTH 6 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	333	3396	0.86	0.50	0.62	0.60	0.42	0.23	402	575	833
	3		2264	1.03	0.72	0.84						
	5		1698	1.19	0.94	1.07						
3	1	333	3396	0.86	0.51	0.64	0.60	0.42	0.23	805	1150	1666
	3		2264	1.03	0.73	0.86						
	5		1698	1.20	0.95	1.08						
4	1	333	3396	0.87	0.52	0.65	0.64	0.46	0.25	1207	1725	2500
	3		2264	1.03	0.74	0.88						
	5		1698	1.20	0.96	1.10						
5	1	333	3396	0.87	0.53	0.67	0.64	0.46	0.25	1610	2300	3333
	3		2264	1.04	0.75	0.89						
	5		1698	1.21	0.98	1.11						
6	1	333	3396	0.88	0.54	0.68	0.64	0.46	0.25	2012	2875	4166
	3		2264	1.04	0.76	0.91						
	5		1698	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 7 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	285	2907	0.87	0.51	0.64	0.70	0.49	0.26	345	492	714
	3		2422	1.04	0.73	0.86						
	5		1938	1.20	0.95	1.08						
3	1	285	2907	0.87	0.52	0.65	0.70	0.49	0.26	690	985	1428
	3		2422	1.04	0.74	0.88						
	5		1938	1.21	0.96	1.10						
4	1	285	2907	0.88	0.53	0.67	0.74	0.54	0.30	1035	1478	2142
	3		2422	1.05	0.75	0.89						
	5		1938	1.21	0.97	1.12						
5	1	285	2907	0.88	0.54	0.69	0.74	0.54	0.30	1380	1971	2857
	3		2422	1.05	0.76	0.91						
	5		1938	1.22	0.99	1.13						
6	1	285	2907	0.89	0.55	0.70	0.74	0.54	0.30	1725	2464	3571
	3		2422	1.06	0.77	0.92						
	5		1938	1.22	1.00	1.15						

7090 SORT TIMING TABLE RECORD LENGTH 8 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	250	2550	0.88	0.52	0.66	0.80	0.56	0.30	301	431	625
	3		2125	1.05	0.74	0.88						
	5		1700	1.22	0.96	1.10						
3	1	250	2550	0.89	0.53	0.67	0.80	0.56	0.30	603	862	1250
	3		2125	1.05	0.75	0.89						
	5		1700	1.22	0.97	1.12						
4	1	250	2550	0.89	0.54	0.69	0.85	0.61	0.34	905	1293	1875
	3		2125	1.06	0.76	0.91						
	5		1700	1.23	0.98	1.13						
5	1	250	2550	0.89	0.55	0.70	0.85	0.61	0.34	1207	1725	2500
	3		2125	1.06	0.77	0.93						
	5		1700	1.23	0.99	1.15						
6	1	250	2550	0.90	0.56	0.72	0.85	0.61	0.34	1509	2156	3125
	3		2125	1.07	0.78	0.94						
	5		1700	1.23	1.01	1.16						

7090 SORT TIMING TABLE RECORD LENGTH 9 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	222	2264	0.89	0.52	0.67	0.90	0.63	0.34	268	383	555
	3		1887	1.06	0.75	0.90						
	5		1509	1.23	0.97	1.12						
3	1	222	2264	0.90	0.54	0.69	0.90	0.63	0.34	536	766	1111
	3		1887	1.06	0.76	0.91						
	5		1509	1.23	0.98	1.13						
4	1	222	2264	0.90	0.55	0.70	0.96	0.69	0.38	805	1150	1666
	3		1887	1.07	0.77	0.93						
	5		1509	1.24	0.99	1.15						
5	1	222	2264	0.91	0.56	0.72	0.96	0.69	0.38	1073	1533	2222
	3		1887	1.07	0.78	0.94						
	5		1509	1.24	1.00	1.17						
6	1	222	2264	0.91	0.57	0.74	0.96	0.69	0.38	1341	1916	2777
	3		1887	1.08	0.79	0.96						
	5		1509	1.25	1.02	1.18						

7090 SORT TIMING TABLE RECORD LENGTH 10 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	200	2380	0.90	0.53	0.69	1.00	0.70	0.38	241	345	500
	3		1700	1.07	0.76	0.91						
	5		1700	1.24	0.98	1.14						
3	1	200	2380	0.91	0.55	0.71	1.00	0.70	0.38	483	690	1000
	3		1700	1.08	0.77	0.93						
	5		1700	1.24	0.99	1.15						
4	1	200	2380	0.91	0.56	0.72	1.06	0.77	0.42	724	1035	1500
	3		1700	1.08	0.78	0.94						
	5		1700	1.25	1.00	1.17						
5	1	200	2380	0.92	0.57	0.74	1.06	0.77	0.42	966	1380	2000
	3		1700	1.09	0.79	0.96						
	5		1700	1.25	1.01	1.18						
6	1	200	2380	0.92	0.58	0.75	1.06	0.77	0.42	1207	1725	2500
	3		1700	1.09	0.80	0.98						
	5		1700	1.26	1.02	1.20						

7090 SORT TIMING TABLE RECORD LENGTH 11 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	181	2153	0.91	0.54	0.71	1.10	0.77	0.42	219	313	454
	3		1846	1.08	0.77	0.93						
	5		1538	1.25	0.99	1.15						
3	1	181	2153	0.92	0.55	0.72	1.10	0.77	0.42	439	627	909
	3		1846	1.09	0.78	0.94						
	5		1538	1.26	1.00	1.17						
4	1	181	2153	0.92	0.57	0.74	1.17	0.85	0.47	658	940	1363
	3		1846	1.09	0.79	0.96						
	5		1538	1.26	1.01	1.18						
5	1	181	2153	0.93	0.58	0.75	1.17	0.85	0.47	878	1254	1818
	3		1846	1.10	0.80	0.98						
	5		1538	1.26	1.02	1.20						
6	1	181	2153	0.93	0.59	0.77	1.17	0.85	0.47	1097	1568	2272
	3		1846	1.10	0.81	0.99						
	5		1538	1.27	1.03	1.21						

7090 SORT TIMING TABLE RECORD LENGTH 12 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	166	1975	0.93	0.55	0.72	1.20	0.84	0.45	201	287	416
	3		1693	1.09	0.78	0.95						
	5		1411	1.26	1.00	1.17						
3	1	166	1975	0.93	0.56	0.74	1.20	0.84	0.45	402	575	833
	3		1693	1.10	0.79	0.96						
	5		1411	1.27	1.01	1.18						
4	1	166	1975	0.94	0.58	0.75	1.27	0.92	0.51	603	862	1250
	3		1693	1.10	0.80	0.98						
	5		1411	1.27	1.02	1.20						
5	1	166	1975	0.94	0.59	0.77	1.27	0.92	0.51	805	1150	1666
	3		1693	1.11	0.81	0.99						
	5		1411	1.28	1.03	1.22						
6	1	166	1975	0.94	0.60	0.79	1.27	0.92	0.51	1006	1437	2083
	3		1693	1.11	0.82	1.01						
	5		1411	1.28	1.04	1.23						

7090 SORT TIMING TABLE RECORD LENGTH 13 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	153	1820	0.94	0.56	0.74	1.30	0.91	0.49	185	265	384
	3		1560	1.11	0.78	0.96						
	5		1300	1.27	1.01	1.19						
3	1	153	1820	0.94	0.57	0.76	1.30	0.91	0.49	371	530	769
	3		1560	1.11	0.80	0.98						
	5		1300	1.28	1.02	1.20						
4	1	153	1820	0.95	0.58	0.77	1.38	1.00	0.55	557	796	1153
	3		1560	1.11	0.81	0.99						
	5		1300	1.28	1.03	1.22						
5	1	153	1820	0.95	0.60	0.79	1.38	1.00	0.55	743	1061	1538
	3		1560	1.12	0.82	1.01						
	5		1300	1.29	1.04	1.23						
6	1	153	1820	0.96	0.61	0.80	1.38	1.00	0.55	928	1326	1923
	3		1560	1.12	0.83	1.03						
	5		1300	1.29	1.05	1.25						

7090 SORT TIMING TABLE RECORD LENGTH 14 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	142	1689	0.95	0.57	0.76	1.40	0.99	0.53	172	246	357
	3		1448	1.12	0.79	0.98						
	5		1448	1.28	1.02	1.20						
3	1	142	1689	0.95	0.58	0.77	1.40	0.99	0.53	345	492	714
	3		1448	1.12	0.81	1.00						
	5		1448	1.29	1.03	1.22						
4	1	142	1689	0.96	0.59	0.79	1.49	1.08	0.59	517	739	1071
	3		1448	1.13	0.82	1.01						
	5		1448	1.29	1.04	1.23						
5	1	142	1689	0.96	0.61	0.80	1.49	1.08	0.59	690	985	1428
	3		1448	1.13	0.83	1.03						
	5		1448	1.30	1.05	1.25						
6	1	142	1689	0.97	0.62	0.82	1.49	1.08	0.59	862	1232	1785
	3		1448	1.14	0.84	1.04						
	5		1448	1.30	1.06	1.27						



7090 SORT TIMING TABLE RECORD LENGTH 15 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	133	1582	0.96	0.58	0.77	1.49	1.06	0.57	161	230	333
	3		1356	1.13	0.80	1.00						
	5		1356	1.30	1.03	1.22						
3	1	133	1582	0.97	0.59	0.79	1.49	1.06	0.57	322	460	666
	3		1356	1.13	0.81	1.01						
	5		1356	1.30	1.04	1.24						
4	1	133	1582	0.97	0.60	0.81	1.59	1.15	0.64	483	690	1000
	3		1356	1.14	0.83	1.03						
	5		1356	1.31	1.05	1.25						
5	1	133	1582	0.97	0.61	0.82	1.59	1.15	0.64	644	920	1333
	3		1356	1.14	0.84	1.04						
	5		1356	1.31	1.06	1.27						
6	1	133	1582	0.98	0.63	0.84	1.59	1.15	0.64	805	1150	1666
	3		1356	1.15	0.85	1.06						
	5		1356	1.31	1.07	1.28						

7090 SORT TIMING TABLE RECORD LENGTH 16 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	125	1700	0.85	0.49	0.62	1.59	1.13	0.61	150	215	312
	3		1487	1.02	0.72	0.84						
	5		1275	1.19	0.94	1.06						
3	1	125	1700	0.86	0.51	0.63	1.59	1.13	0.61	301	431	625
	3		1487	1.03	0.73	0.86						
	5		1275	1.19	0.95	1.08						
4	1	125	1700	0.86	0.52	0.65	1.70	1.23	0.68	452	646	937
	3		1487	1.03	0.74	0.87						
	5		1275	1.20	0.96	1.09						
5	1	125	1700	0.87	0.53	0.66	1.70	1.23	0.68	603	862	1250
	3		1487	1.04	0.75	0.89						
	5		1275	1.20	0.97	1.11						
6	1	125	1700	0.87	0.54	0.68	1.70	1.23	0.68	754	1078	1562
	3		1487	1.04	0.76	0.90						
	5		1275	1.21	0.98	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 17 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	117	1591	0.85	0.49	0.62	1.69	1.20	0.64	142	202	294
	3		1392	1.02	0.72	0.84						
	5		1193	1.19	0.94	1.06						
3	1	117	1591	0.86	0.51	0.63	1.69	1.20	0.64	284	405	588
	3		1392	1.03	0.73	0.86						
	5		1193	1.19	0.95	1.08						
4	1	117	1591	0.86	0.52	0.65	1.81	1.31	0.72	426	608	882
	3		1392	1.03	0.74	0.87						
	5		1193	1.20	0.96	1.09						
5	1	117	1591	0.87	0.53	0.66	1.81	1.31	0.72	568	811	1176
	3		1392	1.04	0.75	0.89						
	5		1193	1.20	0.97	1.11						
6	1	117	1591	0.87	0.54	0.68	1.81	1.31	0.72	710	1014	1470
	3		1392	1.04	0.76	0.90						
	5		1193	1.21	0.98	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 18 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	111	1509	0.85	0.49	0.62	1.79	1.27	0.68	134	191	277
	3		1320	1.02	0.72	0.84						
	5		1132	1.19	0.94	1.06						
3	1	111	1509	0.86	0.51	0.63	1.79	1.27	0.68	268	383	555
	3		1320	1.03	0.73	0.86						
	5		1132	1.19	0.95	1.08						
4	1	111	1509	0.86	0.52	0.65	1.91	1.38	0.76	402	575	833
	3		1320	1.03	0.74	0.87						
	5		1132	1.20	0.96	1.09						
5	1	111	1509	0.87	0.53	0.66	1.91	1.38	0.76	536	766	1111
	3		1320	1.04	0.75	0.89						
	5		1132	1.20	0.97	1.11						
6	1	111	1509	0.87	0.54	0.68	1.91	1.38	0.76	670	958	1388
	3		1320	1.04	0.76	0.90						
	5		1132	1.21	0.98	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 19 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	105	1428	0.85	0.49	0.62	1.89	1.34	0.72	127	181	263
	3		1249	1.02	0.72	0.84						
	5		1071	1.19	0.94	1.06						
3	1	105	1428	0.86	0.51	0.63	1.89	1.34	0.72	254	363	526
	3		1249	1.03	0.73	0.86						
	5		1071	1.19	0.95	1.08						
4	1	105	1428	0.86	0.52	0.65	2.02	1.46	0.81	381	544	789
	3		1249	1.03	0.74	0.87						
	5		1071	1.20	0.96	1.09						
5	1	105	1428	0.87	0.53	0.66	2.02	1.46	0.81	508	726	1052
	3		1249	1.04	0.75	0.89						
	5		1071	1.20	0.97	1.11						
6	1	105	1428	0.87	0.54	0.68	2.02	1.46	0.81	635	907	1315
	3		1249	1.04	0.76	0.90						
	5		1071	1.21	0.98	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 20 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	100	1360	0.85	0.49	0.62	1.99	1.41	0.76	120	172	250
	3		1190	1.02	0.72	0.84						
	5		1020	1.19	0.94	1.06						
3	1	100	1360	0.86	0.51	0.63	1.99	1.41	0.76	241	345	500
	3		1190	1.03	0.73	0.86						
	5		1020	1.19	0.95	1.08						
4	1	100	1360	0.86	0.52	0.65	2.12	1.54	0.85	362	517	750
	3		1190	1.03	0.74	0.87						
	5		1020	1.20	0.96	1.09						
5	1	100	1360	0.87	0.53	0.66	2.12	1.54	0.85	483	690	1000
	3		1190	1.04	0.75	0.89						
	5		1020	1.20	0.97	1.11						
6	1	100	1360	0.87	0.54	0.68	2.12	1.54	0.85	603	862	1250
	3		1190	1.04	0.76	0.90						
	5		1020	1.21	0.98	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 21 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	95	1292	0.85	0.49	0.62	2.09	1.48	0.79	115	164	238
	3		1130	1.02	0.72	0.84						
	5		969	1.19	0.94	1.06						
3	1	95	1292	0.86	0.51	0.63	2.09	1.48	0.79	230	328	476
	3		1130	1.03	0.73	0.86						
	5		969	1.19	0.95	1.08						
4	1	95	1292	0.86	0.52	0.65	2.23	1.62	0.89	345	492	714
	3		1130	1.03	0.74	0.87						
	5		969	1.20	0.96	1.09						
5	1	95	1292	0.87	0.53	0.66	2.23	1.62	0.89	460	657	952
	3		1130	1.04	0.75	0.89						
	5		969	1.20	0.97	1.11						
6	1	95	1292	0.87	0.54	0.68	2.23	1.62	0.89	575	821	1190
	3		1130	1.04	0.76	0.90						
	5		969	1.21	0.98	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 22 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	90	1224	0.85	0.49	0.62	2.19	1.55	0.83	109	156	227
	3		1071	1.02	0.72	0.84						
	5		1071	1.19	0.94	1.06						
3	1	90	1224	0.86	0.51	0.63	2.19	1.55	0.83	219	313	454
	3		1071	1.03	0.73	0.86						
	5		1071	1.19	0.95	1.08						
4	1	90	1224	0.86	0.52	0.65	2.34	1.70	0.94	329	470	681
	3		1071	1.03	0.74	0.87						
	5		1071	1.20	0.96	1.09						
5	1	90	1224	0.87	0.53	0.66	2.34	1.70	0.94	439	627	909
	3		1071	1.04	0.75	0.89						
	5		1071	1.20	0.97	1.11						
6	1	90	1224	0.87	0.54	0.68	2.34	1.70	0.94	548	784	1136
	3		1071	1.04	0.76	0.90						
	5		1071	1.21	0.98	1.13						

7090 SORT TIMING TABLE											RECORD LENGTH 23 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS			
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI	
2	1	87	1183	0.85	0.49	0.62	2.29	1.62	0.87	105	150	217	
	3		1035	1.02	0.72	0.84							
	5		1035	1.19	0.94	1.06							
3	1	87	1183	0.86	0.51	0.63	2.29	1.62	0.87	210	300	434	
	3		1035	1.03	0.73	0.86							
	5		1035	1.19	0.95	1.08							
4	1	87	1183	0.86	0.52	0.65	2.44	1.77	0.98	315	450	652	
	3		1035	1.03	0.74	0.87							
	5		1035	1.20	0.96	1.09							
5	1	87	1183	0.87	0.53	0.66	2.44	1.77	0.98	420	600	869	
	3		1035	1.04	0.75	0.89							
	5		1035	1.20	0.97	1.11							
6	1	87	1183	0.87	0.54	0.68	2.44	1.77	0.98	525	750	1086	
	3		1035	1.04	0.76	0.90							
	5		1035	1.21	0.98	1.13							

7090 SORT TIMING TABLE											RECORD LENGTH 24 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS			
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI	
2	1	83	1128	0.85	0.49	0.62	2.39	1.69	0.91	100	143	208	
	3		987	1.02	0.72	0.84							
	5		987	1.19	0.94	1.06							
3	1	83	1128	0.86	0.51	0.63	2.39	1.69	0.91	201	287	416	
	3		987	1.03	0.73	0.86							
	5		987	1.19	0.95	1.08							
4	1	83	1128	0.86	0.52	0.65	2.55	1.84	1.02	301	431	625	
	3		987	1.03	0.74	0.87							
	5		987	1.20	0.96	1.09							
5	1	83	1128	0.87	0.53	0.66	2.55	1.84	1.02	402	575	833	
	3		987	1.04	0.75	0.89							
	5		987	1.20	0.97	1.11							
6	1	83	1128	0.87	0.54	0.68	2.55	1.84	1.02	503	718	1041	
	3		987	1.04	0.76	0.90							
	5		987	1.21	0.98	1.13							

7090 SORT TIMING TABLE											RECORD LENGTH 25 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS			
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI	
2	1	80	1088	0.85	0.49	0.62	2.49	1.76	0.95	96	138	200	
	3		952	1.02	0.72	0.84							
	5		952	1.19	0.94	1.06							
3	1	80	1088	0.86	0.51	0.63	2.49	1.76	0.95	193	276	400	
	3		952	1.03	0.73	0.86							
	5		952	1.19	0.95	1.08							
4	1	80	1088	0.86	0.52	0.65	2.66	1.93	1.06	289	414	600	
	3		952	1.03	0.74	0.87							
	5		952	1.20	0.96	1.09							
5	1	80	1088	0.87	0.53	0.66	2.66	1.93	1.06	386	552	800	
	3		952	1.04	0.75	0.89							
	5		952	1.20	0.97	1.11							
6	1	80	1088	0.87	0.54	0.68	2.66	1.93	1.06	483	690	1000	
	3		952	1.04	0.76	0.90							
	5		952	1.21	0.98	1.13							

7090 SORT TIMING TABLE											RECORD LENGTH 30 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS			
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI	
2	1	66	897	0.85	0.49	0.62	2.99	2.11	1.14	80	115	166	
	3		897	1.02	0.72	0.84							
	5		785	1.19	0.94	1.06							
3	1	66	897	0.86	0.51	0.63	2.99	2.11	1.14	161	230	333	
	3		897	1.03	0.73	0.86							
	5		785	1.19	0.95	1.08							
4	1	66	897	0.86	0.52	0.65	3.18	2.31	1.27	241	345	500	
	3		897	1.03	0.74	0.87							
	5		785	1.20	0.96	1.09							
5	1	66	897	0.87	0.53	0.66	3.18	2.31	1.27	322	460	666	
	3		897	1.04	0.75	0.89							
	5		785	1.20	0.97	1.11							
6	1	66	897	0.87	0.54	0.68	3.18	2.31	1.27	402	575	833	
	3		897	1.04	0.76	0.90							
	5		785	1.21	0.99	1.13							

## 7090 SURT TIMING TABLE

RECORD LENGTH 35 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	57	775	0.85	0.49	0.62	3.49	2.46	1.32	69	98	142
	3		775	1.02	0.72	0.84						
	5		678	1.19	0.94	1.06						
3	1	57	775	0.86	0.51	0.63	3.49	2.46	1.32	138	197	285
	3		775	1.03	0.73	0.86						
	5		678	1.19	0.95	1.08						
4	1	57	775	0.86	0.52	0.65	3.72	2.70	1.49	207	295	428
	3		775	1.03	0.74	0.87						
	5		678	1.20	0.96	1.09						
5	1	57	775	0.87	0.53	0.66	3.72	2.70	1.49	276	394	571
	3		775	1.04	0.75	0.89						
	5		678	1.20	0.97	1.11						
6	1	57	775	0.87	0.54	0.68	3.72	2.70	1.49	345	492	714
	3		775	1.04	0.76	0.90						
	5		678	1.21	0.99	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 40 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	50	765	0.85	0.49	0.62	3.99	2.81	1.51	60	86	125
	3		680	1.02	0.72	0.84						
	5		680	1.19	0.94	1.06						
3	1	50	765	0.86	0.51	0.63	3.99	2.81	1.51	120	172	250
	3		680	1.03	0.73	0.86						
	5		680	1.20	0.95	1.08						
4	1	50	765	0.86	0.52	0.65	4.25	3.07	1.70	181	258	375
	3		680	1.03	0.74	0.87						
	5		680	1.20	0.96	1.09						
5	1	50	765	0.87	0.53	0.66	4.25	3.07	1.70	241	345	500
	3		680	1.04	0.75	0.89						
	5		680	1.20	0.97	1.11						
6	1	50	765	0.87	0.54	0.68	4.25	3.07	1.70	301	431	625
	3		680	1.04	0.76	0.90						
	5		680	1.21	0.99	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 45 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	44	673	0.85	0.49	0.62	4.49	3.17	1.70	53	76	111
	3		598	1.02	0.72	0.84						
	5		598	1.19	0.94	1.06						
3	1	44	673	0.86	0.51	0.63	4.49	3.17	1.70	107	153	222
	3		598	1.03	0.73	0.86						
	5		598	1.20	0.95	1.08						
4	1	44	673	0.86	0.52	0.65	4.78	3.46	1.91	161	230	333
	3		598	1.03	0.74	0.87						
	5		598	1.20	0.96	1.09						
5	1	44	673	0.87	0.53	0.66	4.78	3.46	1.91	214	306	444
	3		598	1.04	0.75	0.89						
	5		598	1.20	0.97	1.11						
6	1	44	673	0.87	0.54	0.68	4.78	3.46	1.91	268	383	555
	3		598	1.04	0.76	0.90						
	5		598	1.21	0.99	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 50 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	40	612	0.85	0.49	0.62	4.98	3.52	1.89	48	69	100
	3		544	1.02	0.72	0.84						
	5		544	1.19	0.94	1.06						
3	1	40	612	0.86	0.51	0.63	4.98	3.52	1.89	96	138	200
	3		544	1.03	0.73	0.86						
	5		544	1.20	0.95	1.08						
4	1	40	612	0.86	0.52	0.65	5.32	3.86	2.13	144	207	300
	3		544	1.03	0.74	0.87						
	5		544	1.20	0.96	1.09						
5	1	40	612	0.87	0.53	0.66	5.32	3.86	2.13	193	276	400
	3		544	1.04	0.75	0.89						
	5		544	1.20	0.97	1.11						
6	1	40	612	0.87	0.54	0.68	5.32	3.86	2.13	241	345	500
	3		544	1.04	0.76	0.90						
	5		544	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 55 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	36	550	0.85	0.49	0.62	5.48	3.87	2.08	43	62	90
	3		550	1.02	0.72	0.84						
	5		489	1.19	0.94	1.06						
3	1	36	550	0.86	0.51	0.63	5.48	3.87	2.08	87	125	181
	3		550	1.03	0.73	0.86						
	5		489	1.20	0.95	1.08						
4	1	36	550	0.86	0.52	0.65	5.84	4.23	2.33	131	188	272
	3		550	1.03	0.74	0.87						
	5		489	1.20	0.96	1.09						
5	1	36	550	0.87	0.53	0.67	5.84	4.23	2.33	175	250	363
	3		550	1.04	0.75	0.89						
	5		489	1.20	0.97	1.11						
6	1	36	550	0.87	0.54	0.68	5.84	4.23	2.33	219	313	454
	3		550	1.04	0.76	0.90						
	5		489	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 60 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	33	504	0.85	0.49	0.62	5.98	4.22	2.27	40	57	83
	3		504	1.02	0.72	0.84						
	5		448	1.19	0.94	1.06						
3	1	33	504	0.86	0.51	0.63	5.98	4.22	2.27	80	115	166
	3		504	1.03	0.73	0.86						
	5		448	1.20	0.95	1.08						
4	1	33	504	0.86	0.52	0.65	6.37	4.61	2.54	120	172	250
	3		504	1.03	0.74	0.87						
	5		448	1.20	0.96	1.09						
5	1	33	504	0.87	0.53	0.67	6.37	4.61	2.54	161	230	333
	3		504	1.04	0.75	0.89						
	5		448	1.20	0.97	1.11						
6	1	33	504	0.87	0.54	0.68	6.37	4.61	2.54	201	287	416
	3		504	1.04	0.76	0.90						
	5		448	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 65 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	30	459	0.86	0.49	0.62	6.48	4.58	2.46	37	53	76
	3		459	1.02	0.72	0.84						
	5		459	1.19	0.94	1.06						
3	1	30	459	0.86	0.51	0.63	6.48	4.58	2.46	74	106	153
	3		459	1.03	0.73	0.86						
	5		459	1.20	0.95	1.08						
4	1	30	459	0.86	0.52	0.65	6.90	5.00	2.76	111	159	230
	3		459	1.03	0.74	0.87						
	5		459	1.20	0.96	1.10						
5	1	30	459	0.87	0.53	0.67	6.90	5.00	2.76	148	212	307
	3		459	1.04	0.75	0.89						
	5		459	1.20	0.97	1.11						
6	1	30	459	0.87	0.54	0.68	6.90	5.00	2.76	185	265	384
	3		459	1.04	0.76	0.90						
	5		459	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 70 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	28	428	0.86	0.49	0.62	6.98	4.93	2.65	34	49	71
	3		428	1.02	0.72	0.84						
	5		428	1.19	0.94	1.06						
3	1	28	428	0.86	0.51	0.63	6.98	4.93	2.65	69	98	142
	3		428	1.03	0.73	0.86						
	5		428	1.20	0.95	1.08						
4	1	28	428	0.86	0.52	0.65	7.45	5.40	2.98	103	147	214
	3		428	1.03	0.74	0.87						
	5		428	1.20	0.96	1.10						
5	1	28	428	0.87	0.53	0.67	7.45	5.40	2.98	138	197	285
	3		428	1.04	0.75	0.89						
	5		428	1.20	0.97	1.11						
6	1	28	428	0.87	0.54	0.68	7.45	5.40	2.98	172	246	357
	3		428	1.04	0.76	0.90						
	5		428	1.21	0.99	1.13						

7090 SORT TIMING TABLE													RECORD LENGTH 75 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	26	397	0.86	0.49	0.62	7.48	5.28	2.84	32	46	66			
	3		397	1.02	0.72	0.84									
	5		397	1.19	0.94	1.06									
3	1	26	397	0.86	0.51	0.63	7.48	5.28	2.84	64	92	133			
	3		397	1.03	0.73	0.86									
	5		397	1.20	0.95	1.08									
4	1	26	397	0.86	0.52	0.65	8.01	5.81	3.21	96	138	200			
	3		397	1.03	0.74	0.87									
	5		397	1.20	0.96	1.10									
5	1	26	397	0.87	0.53	0.67	8.01	5.81	3.21	128	184	266			
	3		397	1.04	0.75	0.89									
	5		397	1.20	0.97	1.11									
6	1	26	397	0.87	0.54	0.68	8.01	5.81	3.21	161	230	333			
	3		397	1.04	0.76	0.90									
	5		397	1.21	0.99	1.13									

7090 SORT TIMING TABLE													RECORD LENGTH 80 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	25	382	0.86	0.49	0.62	7.97	5.63	3.03	30	43	62			
	3		382	1.02	0.72	0.84									
	5		340	1.19	0.94	1.06									
3	1	25	382	0.86	0.51	0.63	7.97	5.63	3.03	60	86	125			
	3		382	1.03	0.73	0.86									
	5		340	1.20	0.95	1.08									
4	1	25	382	0.86	0.52	0.65	8.49	6.15	3.39	90	129	187			
	3		382	1.03	0.74	0.87									
	5		340	1.20	0.96	1.10									
5	1	25	382	0.87	0.53	0.67	8.49	6.15	3.39	120	172	250			
	3		382	1.04	0.75	0.89									
	5		340	1.20	0.97	1.11									
6	1	25	382	0.87	0.54	0.68	8.49	6.15	3.39	150	215	312			
	3		382	1.04	0.76	0.90									
	5		340	1.21	0.99	1.13									

7090 SORT TIMING TABLE													RECORD LENGTH 85 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	23	351	0.86	0.49	0.62	8.48	5.99	3.22	28	40	58			
	3		351	1.02	0.72	0.84									
	5		351	1.19	0.94	1.06									
3	1	23	351	0.86	0.51	0.63	8.48	5.99	3.22	56	81	117			
	3		351	1.03	0.73	0.86									
	5		351	1.20	0.95	1.08									
4	1	23	351	0.86	0.52	0.65	9.07	6.58	3.64	85	121	176			
	3		351	1.03	0.74	0.87									
	5		351	1.20	0.96	1.10									
5	1	23	351	0.87	0.53	0.67	9.07	6.58	3.64	113	162	235			
	3		351	1.04	0.75	0.89									
	5		351	1.20	0.97	1.11									
6	1	23	351	0.87	0.54	0.68	9.07	6.58	3.64	142	202	294			
	3		351	1.04	0.76	0.90									
	5		351	1.21	0.99	1.13									

7090 SORT TIMING TABLE													RECORD LENGTH 90 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	22	336	0.86	0.49	0.62	8.97	6.33	3.41	26	38	55			
	3		336	1.02	0.72	0.84									
	5		336	1.19	0.94	1.06									
3	1	22	336	0.86	0.51	0.63	8.97	6.33	3.41	53	76	111			
	3		336	1.03	0.73	0.86									
	5		336	1.20	0.95	1.08									
4	1	22	336	0.86	0.52	0.65	9.55	6.92	3.81	80	115	166			
	3		336	1.03	0.74	0.87									
	5		336	1.20	0.96	1.10									
5	1	22	336	0.87	0.53	0.67	9.55	6.92	3.81	107	153	222			
	3		336	1.04	0.75	0.89									
	5		336	1.20	0.97	1.11									
6	1	22	336	0.87	0.54	0.68	9.55	6.92	3.81	134	191	277			
	3		336	1.04	0.76	0.90									
	5		336	1.21	0.99	1.13									

## 7090 SORT TIMING TABLE

RECORD LENGTH 95 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	21	321	0.86	0.49	0.62	9.47	6.68	3.60	25	36	52
	3		321	1.02	0.72	0.84						
	5		321	1.19	0.94	1.06						
3	1	21	321	0.86	0.51	0.63	9.47	6.68	3.60	50	72	105
	3		321	1.03	0.73	0.86						
	5		321	1.20	0.95	1.08						
4	1	21	321	0.86	0.52	0.65	10.16	7.38	4.08	76	108	157
	3		321	1.03	0.74	0.87						
	5		321	1.20	0.96	1.10						
5	1	21	321	0.87	0.53	0.67	10.16	7.38	4.08	101	145	210
	3		321	1.04	0.75	0.89						
	5		321	1.20	0.97	1.11						
6	1	21	321	0.87	0.54	0.68	10.16	7.38	4.08	127	181	263
	3		321	1.04	0.76	0.90						
	5		321	1.21	0.99	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 100 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	20	306	0.86	0.49	0.62	9.96	7.03	3.78	24	34	50
	3		306	1.02	0.72	0.84						
	5		306	1.19	0.94	1.06						
3	1	20	306	0.86	0.51	0.63	9.96	7.03	3.78	48	69	100
	3		306	1.03	0.73	0.86						
	5		306	1.20	0.95	1.08						
4	1	20	306	0.86	0.52	0.65	10.64	7.71	4.26	72	103	150
	3		306	1.03	0.74	0.87						
	5		306	1.20	0.96	1.10						
5	1	20	306	0.87	0.53	0.67	10.64	7.71	4.26	96	138	200
	3		306	1.04	0.75	0.89						
	5		306	1.20	0.97	1.11						
6	1	20	306	0.87	0.54	0.68	10.64	7.71	4.26	120	172	250
	3		306	1.04	0.76	0.90						
	5		306	1.21	0.99	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 200 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	10	153	0.86	0.50	0.62	19.93	14.07	7.57	12	17	25
	3		153	1.02	0.72	0.84						
	5		153	1.19	0.94	1.07						
3	1	10	153	0.86	0.51	0.64	19.93	14.07	7.57	24	34	50
	3		153	1.03	0.73	0.86						
	5		153	1.20	0.95	1.08						
4	1	10	153	0.87	0.52	0.65	21.63	15.77	8.76	36	51	75
	3		153	1.03	0.74	0.87						
	5		153	1.20	0.96	1.10						
5	1	10	153	0.87	0.53	0.67	21.63	15.77	8.76	48	69	100
	3		153	1.04	0.75	0.89						
	5		153	1.21	0.98	1.11						
6	1	10	153	0.88	0.54	0.68	21.63	15.77	8.76	60	86	125
	3		153	1.04	0.76	0.91						
	5		153	1.21	0.99	1.13						

## 7090 SORT TIMING TABLE

RECORD LENGTH 300 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	6	81	0.86	0.50	0.62	30.02	21.23	11.44	8	11	16
	3		102	1.03	0.72	0.85						
	5		102	1.19	0.94	1.07						
3	1	6	81	0.86	0.51	0.64	30.02	21.23	11.44	16	23	33
	3		102	1.03	0.73	0.86						
	5		102	1.20	0.95	1.08						
4	1	6	81	0.87	0.52	0.65	32.45	23.66	13.14	24	34	50
	3		102	1.04	0.74	0.88						
	5		102	1.20	0.97	1.10						
5	1	6	81	0.87	0.53	0.67	32.45	23.66	13.14	32	46	66
	3		102	1.04	0.75	0.89						
	5		102	1.21	0.98	1.12						
6	1	6	81	0.88	0.54	0.69	32.45	23.66	13.14	40	57	83
	3		102	1.04	0.77	0.91						
	5		102	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 400 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	5	76	0.86	0.50	0.62	39.86	28.14	15.14	6	8	12
	3		76	1.03	0.72	0.85						
	5		76	1.20	0.94	1.07						
3	1	5	76	0.86	0.51	0.64	39.86	28.14	15.14	12	17	25
	3		76	1.03	0.73	0.86						
	5		76	1.20	0.96	1.09						
4	1	5	76	0.87	0.52	0.66	45.70	33.98	19.22	18	25	37
	3		76	1.04	0.74	0.88						
	5		76	1.20	0.97	1.10						
5	1	5	76	0.87	0.53	0.67	45.70	33.98	19.22	24	34	50
	3		76	1.04	0.75	0.89						
	5		76	1.21	0.98	1.12						
6	1	5	76	0.88	0.54	0.69	45.70	33.98	19.22	30	43	62
	3		76	1.05	0.77	0.91						
	5		76	1.21	0.99	1.13						

7090 SORT TIMING TABLE RECORD LENGTH 500 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	4	61	0.86	0.50	0.63	49.82	35.17	18.92	4	6	10
	3		61	1.03	0.72	0.85						
	5		61	1.20	0.94	1.07						
3	1	4	61	0.87	0.51	0.64	49.82	35.17	18.92	9	13	20
	3		61	1.03	0.73	0.87						
	5		61	1.20	0.96	1.09						
4	1	4	61	0.87	0.52	0.66	55.30	40.65	22.75	14	20	30
	3		61	1.04	0.74	0.88						
	5		61	1.21	0.97	1.10						
5	1	4	61	0.87	0.53	0.67	55.30	40.65	22.75	19	27	40
	3		61	1.04	0.76	0.90						
	5		61	1.21	0.98	1.12						
6	1	4	61	0.88	0.54	0.69	55.30	40.65	22.75	24	34	50
	3		61	1.05	0.77	0.91						
	5		61	1.21	0.99	1.14						

7090 SORT TIMING TABLE RECORD LENGTH 600 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	3	40	0.86	0.50	0.63	60.03	42.45	22.88	4	5	8
	3		40	1.03	0.72	0.85						
	5		40	1.20	0.95	1.07						
3	1	3	40	0.87	0.51	0.64	60.03	42.45	22.88	8	11	16
	3		40	1.03	0.73	0.87						
	5		40	1.20	0.96	1.09						
4	1	3	40	0.87	0.52	0.66	64.90	47.32	26.28	12	17	25
	3		40	1.04	0.75	0.88						
	5		40	1.21	0.97	1.11						
5	1	3	40	0.88	0.53	0.68	64.90	47.32	26.28	16	23	33
	3		40	1.04	0.76	0.90						
	5		40	1.21	0.98	1.12						
6	1	3	40	0.88	0.55	0.69	64.90	47.32	26.28	20	28	41
	3		40	1.05	0.77	0.91						
	5		40	1.22	0.99	1.14						

7090 SORT TIMING TABLE RECORD LENGTH 700 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	40	0.86	0.50	0.63	70.85	50.34	27.26	3	4	7
	3		40	1.03	0.72	0.85						
	5		40	1.20	0.95	1.08						
3	1	2	40	0.87	0.51	0.65	70.85	50.34	27.26	6	9	14
	3		40	1.04	0.74	0.87						
	5		40	1.20	0.96	1.09						
4	1	2	40	0.87	0.52	0.66	74.50	53.99	29.81	10	14	21
	3		40	1.04	0.75	0.88						
	5		40	1.21	0.97	1.11						
5	1	2	40	0.88	0.54	0.68	74.50	53.99	29.81	13	19	28
	3		40	1.05	0.76	0.90						
	5		40	1.21	0.98	1.12						
6	1	2	40	0.88	0.55	0.69	74.50	53.99	29.81	17	24	35
	3		40	1.05	0.77	0.92						
	5		40	1.22	0.99	1.14						



7090 SORT TIMING TABLE RECORD LENGTH 800 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	34	0.86	0.50	0.63	80.45	57.01	30.79	3	4	6
	3		1.03	0.73	0.86							
	5		1.20	0.95	1.08							
3	1	2	34	0.87	0.51	0.65	80.45	57.01	30.79	6	8	12
	3		1.04	0.74	0.87							
	5		1.21	0.96	1.09							
4	1	2	34	0.87	0.53	0.66	84.10	60.66	33.34	9	12	18
	3		1.04	0.75	0.89							
	5		1.21	0.97	1.11							
5	1	2	34	0.88	0.54	0.68	84.10	60.66	33.34	12	17	25
	3		1.05	0.76	0.90							
	5		1.21	0.98	1.13							
6	1	2	34	0.88	0.55	0.70	84.10	60.66	33.34	15	21	31
	3		1.05	0.77	0.92							
	5		1.22	0.99	1.14							

7090 SORT TIMING TABLE RECORD LENGTH 900 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	27	0.87	0.50	0.63	90.05	63.68	34.32	2	3	5
	3		1.03	0.73	0.86							
	5		1.20	0.95	1.08							
3	1	2	27	0.87	0.51	0.65	90.05	63.68	34.32	5	7	11
	3		1.04	0.74	0.87							
	5		1.21	0.96	1.10							
4	1	2	27	0.88	0.53	0.67	93.70	67.33	36.87	8	11	16
	3		1.04	0.75	0.89							
	5		1.21	0.97	1.11							
5	1	2	27	0.88	0.54	0.68	93.70	67.33	36.87	10	15	22
	3		1.05	0.76	0.90							
	5		1.22	0.98	1.13							
6	1	2	27	0.88	0.55	0.70	93.70	67.33	36.87	13	19	27
	3		1.05	0.77	0.92							
	5		1.22	0.99	1.14							

7090 SORT TIMING TABLE RECORD LENGTH 1000 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	30	0.87	0.50	0.64	99.65	70.35	37.85	2	3	5
	3		1.04	0.73	0.86							
	5		1.20	0.95	1.08							
3	1	2	30	0.87	0.52	0.65	99.65	70.35	37.85	4	6	10
	3		1.04	0.74	0.87							
	5		1.21	0.96	1.10							
4	1	2	30	0.88	0.53	0.67	103.30	74.00	40.40	7	10	15
	3		1.04	0.75	0.89							
	5		1.21	0.97	1.11							
5	1	2	30	0.88	0.54	0.68	103.30	74.00	40.40	9	13	20
	3		1.05	0.76	0.91							
	5		1.22	0.98	1.13							
6	1	2	30	0.89	0.55	0.70	103.30	74.00	40.40	12	17	25
	3		1.05	0.77	0.92							
	5		1.22	1.00	1.14							

7090 SORT TIMING TABLE RECORD LENGTH 1500 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	1	17	0.87	0.51	0.65	151.30	107.35	58.05	1	2	3
	3		1.04	0.73	0.87							
	5		1.21	0.96	1.09							
3	1	1	17	0.88	0.52	0.66	151.30	107.35	58.05	3	4	6
	3		1.05	0.74	0.88							
	5		1.21	0.97	1.11							
4	1	1	17	0.88	0.53	0.68	151.30	107.35	58.05	4	6	10
	3		1.05	0.76	0.90							
	5		1.22	0.98	1.12							
5	1	1	17	0.89	0.54	0.69	151.30	107.35	58.05	6	9	13
	3		1.06	0.77	0.92							
	5		1.22	0.99	1.14							
6	1	1	17	0.89	0.56	0.71	151.30	107.35	58.05	8	11	16
	3		1.06	0.78	0.93							
	5		1.23	1.00	1.15							

## 7090 SORT TIMING TABLE

RECORD LENGTH 2000 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME MILLISECONDS/RECORD			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	1	15	0.88	0.52	0.66	199.30	140.70	75.70	1	1	2
	3		15	1.05	0.74	0.88						
	5		15	1.22	0.96	1.10						
3	1	1	15	0.89	0.53	0.67	199.30	140.70	75.70	2	3	5
	3		15	1.05	0.75	0.89						
	5		15	1.22	0.97	1.12						
4	1	1	15	0.89	0.54	0.69	199.30	140.70	75.70	3	5	7
	3		15	1.06	0.76	0.91						
	5		15	1.23	0.98	1.13						
5	1	1	15	0.89	0.55	0.70	199.30	140.70	75.70	4	6	10
	3		15	1.06	0.77	0.93						
	5		15	1.23	0.99	1.15						
6	1	1	15	0.90	0.56	0.72	199.30	140.70	75.70	6	8	12
	3		15	1.07	0.78	0.94						
	5		15	1.23	1.01	1.16						

# 7094 Sort Timing Tables

7094 SORT TIMING TABLE													RECORD LENGTH 3 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	667	4535	0.76	0.43	0.52	0.30	0.21	0.11	805	1150	1666			
	2		3401	0.83	0.53	0.63									
	3		2267	0.91	0.63	0.73									
3	1	667	4535	0.76	0.44	0.54	0.30	0.21	0.11	1610	2300	3333			
	2		3401	0.84	0.54	0.64									
	3		2267	0.91	0.64	0.74									
4	1	667	4535	0.76	0.45	0.55	0.32	0.23	0.13	2415	3450	5000			
	2		3401	0.84	0.55	0.66									
	3		2267	0.92	0.66	0.76									
5	1	667	4535	0.77	0.46	0.57	0.32	0.23	0.13	3220	4600	6666			
	2		3401	0.84	0.56	0.67									
	3		2267	0.92	0.67	0.77									
6	1	667	4535	0.77	0.47	0.58	0.32	0.23	0.13	4025	5750	8333			
	2		3401	0.85	0.57	0.68									
	3		2267	0.93	0.68	0.79									

7094 SORT TIMING TABLE													RECORD LENGTH 4 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	500	3400	0.77	0.44	0.54	0.40	0.28	0.15	603	862	1250			
	2		3400	0.84	0.54	0.64									
	3		2550	0.92	0.64	0.74									
3	1	500	3400	0.77	0.45	0.55	0.40	0.28	0.15	1207	1725	2500			
	2		3400	0.85	0.55	0.66									
	3		2550	0.92	0.65	0.76									
4	1	500	3400	0.77	0.46	0.57	0.42	0.31	0.17	1811	2587	3750			
	2		3400	0.85	0.56	0.67									
	3		2550	0.93	0.66	0.77									
5	1	500	3400	0.78	0.47	0.58	0.42	0.31	0.17	2415	3450	5000			
	2		3400	0.86	0.57	0.69									
	3		2550	0.93	0.67	0.79									
6	1	500	3400	0.78	0.48	0.60	0.42	0.31	0.17	3018	4312	6250			
	2		3400	0.86	0.58	0.70									
	3		2550	0.94	0.68	0.80									

7094 SORT TIMING TABLE													RECORD LENGTH 5 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	400	3400	0.78	0.45	0.56	0.50	0.35	0.19	483	690	1000			
	3		2720	0.93	0.65	0.76									
	5		2040	1.08	0.86	0.96									
3	1	400	3400	0.78	0.46	0.57	0.50	0.35	0.19	966	1380	2000			
	3		2720	0.93	0.66	0.77									
	5		2040	1.09	0.87	0.98									
4	1	400	3400	0.78	0.47	0.58	0.53	0.38	0.21	1449	2070	3000			
	3		2720	0.94	0.67	0.79									
	5		2040	1.09	0.88	0.99									
5	1	400	3400	0.79	0.48	0.60	0.53	0.38	0.21	1932	2760	4000			
	3		2720	0.94	0.68	0.80									
	5		2040	1.10	0.89	1.01									
6	1	400	3400	0.79	0.49	0.61	0.53	0.38	0.21	2415	3450	5000			
	3		2720	0.95	0.69	0.82									
	5		2040	1.10	0.90	1.02									

7094 SORT TIMING TABLE													RECORD LENGTH 6 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS					
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI			
2	1	333	3396	0.79	0.46	0.57	0.60	0.42	0.23	402	575	833			
	3		2264	0.94	0.66	0.78									
	5		1698	1.09	0.86	0.98									
3	1	333	3396	0.79	0.47	0.59	0.60	0.42	0.23	805	1150	1666			
	3		2264	0.95	0.67	0.79									
	5		1698	1.10	0.87	0.99									
4	1	333	3396	0.80	0.48	0.60	0.64	0.46	0.25	1207	1725	2500			
	3		2264	0.95	0.68	0.80									
	5		1698	1.10	0.89	1.01									
5	1	333	3396	0.80	0.49	0.61	0.64	0.46	0.25	1610	2300	3333			
	3		2264	0.95	0.69	0.82									
	5		1698	1.11	0.90	1.02									
6	1	333	3396	0.80	0.50	0.63	0.64	0.46	0.25	2012	2875	4166			
	3		2264	0.96	0.70	0.83									
	5		1698	1.11	0.91	1.04									

## 7094 SORT TIMING TABLE

RECORD LENGTH 7 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	285	2907	0.80	0.46	0.59	0.70	0.49	0.26	345	492	714
	3		2422	0.95	0.67	0.79						
	5		1938	1.11	0.87	0.99						
3	1	285	2907	0.80	0.47	0.60	0.70	0.49	0.26	690	985	1428
	3		2422	0.96	0.68	0.80						
	5		1938	1.11	0.88	1.01						
4	1	285	2907	0.81	0.48	0.61	0.74	0.54	0.30	1035	1478	2142
	3		2422	0.96	0.69	0.82						
	5		1938	1.11	0.89	1.02						
5	1	285	2907	0.81	0.50	0.63	0.74	0.54	0.30	1380	1971	2857
	3		2422	0.96	0.70	0.83						
	5		1938	1.12	0.90	1.04						
6	1	285	2907	0.81	0.51	0.64	0.74	0.54	0.30	1725	2464	3571
	3		2422	0.97	0.71	0.85						
	5		1938	1.12	0.91	1.05						

## 7094 SORT TIMING TABLE

RECORD LENGTH 8 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	250	2550	0.81	0.47	0.60	0.80	0.56	0.30	301	431	625
	3		2125	0.96	0.68	0.81						
	5		1700	1.12	0.88	1.01						
3	1	250	2550	0.81	0.48	0.62	0.80	0.56	0.30	603	862	1250
	3		2125	0.97	0.69	0.82						
	5		1700	1.12	0.89	1.02						
4	1	250	2550	0.82	0.49	0.63	0.85	0.61	0.34	905	1293	1875
	3		2125	0.97	0.70	0.83						
	5		1700	1.12	0.90	1.04						
5	1	250	2550	0.82	0.50	0.64	0.85	0.61	0.34	1207	1725	2500
	3		2125	0.97	0.71	0.85						
	5		1700	1.13	0.91	1.05						
6	1	250	2550	0.82	0.51	0.66	0.85	0.61	0.34	1509	2156	3125
	3		2125	0.98	0.72	0.86						
	5		1700	1.13	0.92	1.07						

## 7094 SORT TIMING TABLE

RECORD LENGTH 9 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	222	2264	0.82	0.48	0.62	0.90	0.63	0.34	268	383	555
	3		1887	0.97	0.69	0.82						
	5		1509	1.13	0.89	1.03						
3	1	222	2264	0.82	0.49	0.63	0.90	0.63	0.34	536	766	1111
	3		1887	0.98	0.70	0.84						
	5		1509	1.13	0.90	1.04						
4	1	222	2264	0.83	0.50	0.65	0.96	0.69	0.38	805	1150	1666
	3		1887	0.98	0.71	0.85						
	5		1509	1.13	0.91	1.05						
5	1	222	2264	0.83	0.51	0.66	0.96	0.69	0.38	1073	1533	2222
	3		1887	0.98	0.72	0.86						
	5		1509	1.14	0.92	1.07						
6	1	222	2264	0.84	0.52	0.67	0.96	0.69	0.38	1341	1916	2777
	3		1887	0.99	0.73	0.88						
	5		1509	1.14	0.93	1.08						

## 7094 SORT TIMING TABLE

RECORD LENGTH 10 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	200	2380	0.83	0.49	0.63	1.00	0.70	0.38	241	345	500
	3		1700	0.98	0.69	0.84						
	5		1700	1.14	0.90	1.04						
3	1	200	2380	0.83	0.50	0.65	1.00	0.70	0.38	483	690	1000
	3		1700	0.99	0.70	0.85						
	5		1700	1.14	0.91	1.06						
4	1	200	2380	0.84	0.51	0.66	1.06	0.77	0.42	724	1035	1500
	3		1700	0.99	0.71	0.87						
	5		1700	1.15	0.92	1.07						
5	1	200	2380	0.84	0.52	0.68	1.06	0.77	0.42	966	1380	2000
	3		1700	1.00	0.73	0.88						
	5		1700	1.15	0.93	1.08						
6	1	200	2380	0.85	0.53	0.69	1.06	0.77	0.42	1207	1725	2500
	3		1700	1.00	0.74	0.89						
	5		1700	1.15	0.94	1.10						

7094 SORT TIMING TABLE RECORD LENGTH 11 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	181	2153	0.84	0.50	0.65	1.10	0.77	0.42	219	313	454
	3		1846	0.99	0.70	0.85						
	5		1538	1.15	0.91	1.06						
3	1	181	2153	0.84	0.51	0.66	1.10	0.77	0.42	439	627	909
	3		1846	1.00	0.71	0.87						
	5		1538	1.15	0.92	1.07						
4	1	181	2153	0.85	0.52	0.68	1.17	0.85	0.47	658	940	1363
	3		1846	1.00	0.72	0.88						
	5		1538	1.16	0.93	1.09						
5	1	181	2153	0.85	0.53	0.69	1.17	0.85	0.47	878	1254	1818
	3		1846	1.01	0.73	0.90						
	5		1538	1.16	0.94	1.10						
6	1	181	2153	0.86	0.54	0.71	1.17	0.85	0.47	1097	1568	2272
	3		1846	1.01	0.74	0.91						
	5		1538	1.16	0.95	1.11						

7094 SORT TIMING TABLE RECORD LENGTH 12 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	166	1975	0.85	0.51	0.66	1.20	0.84	0.45	201	287	416
	3		1693	1.00	0.71	0.87						
	5		1411	1.16	0.92	1.07						
3	1	166	1975	0.85	0.52	0.68	1.20	0.84	0.45	402	575	833
	3		1693	1.01	0.72	0.88						
	5		1411	1.16	0.93	1.09						
4	1	166	1975	0.86	0.53	0.69	1.27	0.92	0.51	603	862	1250
	3		1693	1.01	0.73	0.90						
	5		1411	1.17	0.94	1.10						
5	1	166	1975	0.86	0.54	0.71	1.27	0.92	0.51	805	1150	1666
	3		1693	1.02	0.74	0.91						
	5		1411	1.17	0.95	1.12						
6	1	166	1975	0.87	0.55	0.72	1.27	0.92	0.51	1006	1437	2083
	3		1693	1.02	0.75	0.93						
	5		1411	1.17	0.96	1.13						

7094 SORT TIMING TABLE RECORD LENGTH 13 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	153	1820	0.86	0.52	0.68	1.30	0.91	0.49	185	265	384
	3		1560	1.01	0.72	0.88						
	5		1300	1.17	0.92	1.09						
3	1	153	1820	0.86	0.53	0.69	1.30	0.91	0.49	371	530	769
	3		1560	1.02	0.73	0.90						
	5		1300	1.17	0.93	1.10						
4	1	153	1820	0.87	0.54	0.71	1.38	1.00	0.55	557	796	1153
	3		1560	1.02	0.74	0.91						
	5		1300	1.18	0.95	1.12						
5	1	153	1820	0.87	0.55	0.72	1.38	1.00	0.55	743	1061	1538
	3		1560	1.03	0.75	0.93						
	5		1300	1.18	0.96	1.13						
6	1	153	1820	0.88	0.56	0.74	1.38	1.00	0.55	928	1326	1923
	3		1560	1.03	0.76	0.94						
	5		1300	1.19	0.97	1.15						

7094 SORT TIMING TABLE RECORD LENGTH 14 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	142	1689	0.87	0.52	0.69	1.40	0.99	0.53	172	246	397
	3		1448	1.02	0.73	0.90						
	5		1448	1.18	0.93	1.10						
3	1	142	1689	0.87	0.53	0.71	1.40	0.99	0.53	345	492	714
	3		1448	1.03	0.74	0.91						
	5		1448	1.18	0.94	1.12						
4	1	142	1689	0.88	0.54	0.72	1.49	1.08	0.59	517	739	1071
	3		1448	1.03	0.75	0.93						
	5		1448	1.19	0.95	1.13						
5	1	142	1689	0.88	0.56	0.74	1.49	1.08	0.59	690	985	1428
	3		1448	1.04	0.76	0.94						
	5		1448	1.19	0.96	1.15						
6	1	142	1689	0.89	0.57	0.75	1.49	1.08	0.59	862	1232	1785
	3		1448	1.04	0.77	0.96						
	5		1448	1.20	0.97	1.16						

7094 SORT TIMING TABLE RECORDED LENGTH 15 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	133	1582	0.88	0.53	0.71	1.49	1.06	0.57	161	230	333
	3		1356	1.04	0.74	0.91						
	5		1356	1.19	0.94	1.12						
3	1	133	1582	0.89	0.54	0.72	1.49	1.06	0.57	322	460	666
	3		1356	1.04	0.75	0.93						
	5		1356	1.19	0.95	1.13						
4	1	133	1582	0.89	0.55	0.74	1.59	1.15	0.64	483	690	1000
	3		1356	1.04	0.76	0.94						
	5		1356	1.20	0.96	1.15						
5	1	133	1582	0.89	0.56	0.75	1.59	1.15	0.64	644	920	1333
	3		1356	1.05	0.77	0.96						
	5		1356	1.20	0.97	1.16						
6	1	133	1582	0.90	0.57	0.77	1.59	1.15	0.64	805	1150	1666
	3		1356	1.05	0.78	0.97						
	5		1356	1.21	0.98	1.18						

7094 SORT TIMING TABLE RECORDED LENGTH 16 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	125	1700	0.78	0.45	0.57	1.59	1.13	0.61	190	215	312
	3		1487	0.94	0.66	0.77						
	5		1275	1.09	0.86	0.97						
3	1	125	1700	0.79	0.46	0.58	1.59	1.13	0.61	301	431	625
	3		1487	0.94	0.67	0.78						
	5		1275	1.10	0.87	0.99						
4	1	125	1700	0.79	0.47	0.59	1.70	1.23	0.68	452	646	937
	3		1487	0.95	0.68	0.80						
	5		1275	1.10	0.88	1.00						
5	1	125	1700	0.80	0.48	0.61	1.70	1.23	0.68	603	862	1250
	3		1487	0.95	0.69	0.81						
	5		1275	1.10	0.89	1.02						
6	1	125	1700	0.80	0.49	0.62	1.70	1.23	0.68	754	1078	1562
	3		1487	0.95	0.70	0.83						
	5		1275	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORDED LENGTH 17 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	117	1591	0.78	0.45	0.57	1.69	1.20	0.64	142	202	294
	3		1392	0.94	0.66	0.77						
	5		1193	1.09	0.86	0.98						
3	1	117	1591	0.79	0.46	0.58	1.69	1.20	0.64	284	405	588
	3		1392	0.94	0.67	0.79						
	5		1193	1.10	0.87	0.99						
4	1	117	1591	0.79	0.47	0.60	1.81	1.31	0.72	426	608	882
	3		1392	0.95	0.68	0.80						
	5		1193	1.10	0.88	1.00						
5	1	117	1591	0.80	0.48	0.61	1.81	1.31	0.72	568	811	1176
	3		1392	0.95	0.69	0.81						
	5		1193	1.10	0.89	1.02						
6	1	117	1591	0.80	0.49	0.62	1.81	1.31	0.72	710	1014	1470
	3		1392	0.95	0.70	0.83						
	5		1193	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORDED LENGTH 18 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	111	1509	0.78	0.45	0.57	1.79	1.27	0.68	134	191	277
	3		1320	0.94	0.66	0.77						
	5		1132	1.09	0.86	0.98						
3	1	111	1509	0.79	0.46	0.58	1.79	1.27	0.68	268	383	555
	3		1320	0.94	0.67	0.79						
	5		1132	1.10	0.87	0.99						
4	1	111	1509	0.79	0.47	0.60	1.91	1.38	0.76	402	575	833
	3		1320	0.95	0.68	0.80						
	5		1132	1.10	0.88	1.00						
5	1	111	1509	0.80	0.48	0.61	1.91	1.38	0.76	536	766	1111
	3		1320	0.95	0.69	0.81						
	5		1132	1.10	0.89	1.02						
6	1	111	1509	0.80	0.49	0.62	1.91	1.38	0.76	670	958	1388
	3		1320	0.95	0.70	0.83						
	5		1132	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 19 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	105	1428	0.78	0.45	0.57	1.89	1.34	0.72	127	181	263
	3		1249	0.94	0.66	0.77						
	5		1071	1.09	0.86	0.98						
3	1	105	1428	0.79	0.46	0.58	1.89	1.34	0.72	254	363	526
	3		1249	0.94	0.67	0.79						
	5		1071	1.10	0.87	0.99						
4	1	105	1428	0.79	0.47	0.60	2.02	1.46	0.81	381	544	789
	3		1249	0.95	0.68	0.80						
	5		1071	1.10	0.88	1.00						
5	1	105	1428	0.80	0.48	0.61	2.02	1.46	0.81	508	726	1052
	3		1249	0.95	0.69	0.81						
	5		1071	1.10	0.89	1.02						
6	1	105	1428	0.80	0.49	0.62	2.02	1.46	0.81	635	907	1315
	3		1249	0.95	0.70	0.83						
	5		1071	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 20 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	100	1360	0.78	0.45	0.57	1.99	1.41	0.76	120	172	250
	3		1190	0.94	0.66	0.77						
	5		1020	1.09	0.86	0.98						
3	1	100	1360	0.79	0.46	0.58	1.99	1.41	0.76	241	345	500
	3		1190	0.94	0.67	0.79						
	5		1020	1.10	0.87	0.99						
4	1	100	1360	0.79	0.47	0.60	2.12	1.54	0.85	362	517	750
	3		1190	0.95	0.68	0.80						
	5		1020	1.10	0.88	1.00						
5	1	100	1360	0.80	0.48	0.61	2.12	1.54	0.85	483	690	1000
	3		1190	0.95	0.69	0.81						
	5		1020	1.10	0.89	1.02						
6	1	100	1360	0.80	0.49	0.62	2.12	1.54	0.85	603	862	1250
	3		1190	0.95	0.70	0.83						
	5		1020	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 21 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	95	1292	0.78	0.45	0.57	2.09	1.48	0.79	115	164	238
	3		1130	0.94	0.66	0.77						
	5		969	1.09	0.86	0.98						
3	1	95	1292	0.79	0.46	0.58	2.09	1.48	0.79	230	328	476
	3		1130	0.94	0.67	0.79						
	5		969	1.10	0.87	0.99						
4	1	95	1292	0.79	0.47	0.60	2.23	1.62	0.89	345	492	714
	3		1130	0.95	0.68	0.80						
	5		969	1.10	0.88	1.00						
5	1	95	1292	0.80	0.48	0.61	2.23	1.62	0.89	460	657	952
	3		1130	0.95	0.69	0.81						
	5		969	1.10	0.89	1.02						
6	1	95	1292	0.80	0.49	0.62	2.23	1.62	0.89	575	821	1190
	3		1130	0.95	0.70	0.83						
	5		969	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 22 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	90	1224	0.78	0.45	0.57	2.19	1.55	0.83	109	156	227
	3		1071	0.94	0.66	0.77						
	5		1071	1.09	0.86	0.98						
3	1	90	1224	0.79	0.46	0.58	2.19	1.55	0.83	219	313	454
	3		1071	0.94	0.67	0.79						
	5		1071	1.10	0.87	0.99						
4	1	90	1224	0.79	0.47	0.60	2.34	1.70	0.94	329	470	681
	3		1071	0.95	0.68	0.80						
	5		1071	1.10	0.88	1.00						
5	1	90	1224	0.80	0.48	0.61	2.34	1.70	0.94	439	627	909
	3		1071	0.95	0.69	0.81						
	5		1071	1.10	0.89	1.02						
6	1	90	1224	0.80	0.49	0.62	2.34	1.70	0.94	548	784	1136
	3		1071	0.95	0.70	0.83						
	5		1071	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 23 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	87	1183	0.78	0.45	0.57	2.29	1.62	0.87	105	150	217
	3		1035	0.94	0.66	0.77						
	5		1035	1.09	0.86	0.98						
3	1	87	1183	0.79	0.46	0.58	2.29	1.62	0.87	210	300	434
	3		1035	0.94	0.67	0.79						
	5		1035	1.10	0.87	0.99						
4	1	87	1183	0.79	0.47	0.60	2.44	1.77	0.98	315	450	652
	3		1035	0.95	0.68	0.80						
	5		1035	1.10	0.88	1.00						
5	1	87	1183	0.80	0.48	0.61	2.44	1.77	0.98	420	600	869
	3		1035	0.95	0.69	0.81						
	5		1035	1.10	0.89	1.02						
6	1	87	1183	0.80	0.49	0.62	2.44	1.77	0.98	525	750	1086
	3		1035	0.95	0.70	0.83						
	5		1035	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 24 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	83	1128	0.78	0.45	0.57	2.39	1.69	0.91	100	143	208
	3		987	0.94	0.66	0.77						
	5		987	1.09	0.86	0.98						
3	1	83	1128	0.79	0.46	0.58	2.39	1.69	0.91	201	287	416
	3		987	0.94	0.67	0.79						
	5		987	1.10	0.87	0.99						
4	1	83	1128	0.79	0.47	0.60	2.55	1.84	1.02	301	431	625
	3		987	0.95	0.68	0.80						
	5		987	1.10	0.88	1.00						
5	1	83	1128	0.80	0.48	0.61	2.55	1.84	1.02	402	575	833
	3		987	0.95	0.69	0.81						
	5		987	1.10	0.89	1.02						
6	1	83	1128	0.80	0.49	0.62	2.55	1.84	1.02	503	718	1041
	3		987	0.95	0.70	0.83						
	5		987	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 25 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	80	1088	0.78	0.45	0.57	2.49	1.76	0.95	96	138	200
	3		952	0.94	0.66	0.77						
	5		952	1.09	0.86	0.98						
3	1	80	1088	0.79	0.46	0.58	2.49	1.76	0.95	193	276	400
	3		952	0.94	0.67	0.79						
	5		952	1.10	0.87	0.99						
4	1	80	1088	0.79	0.47	0.60	2.66	1.93	1.06	289	414	600
	3		952	0.95	0.68	0.80						
	5		952	1.10	0.88	1.00						
5	1	80	1088	0.80	0.48	0.61	2.66	1.93	1.06	386	552	800
	3		952	0.95	0.69	0.81						
	5		952	1.10	0.89	1.02						
6	1	80	1088	0.80	0.49	0.62	2.66	1.93	1.06	483	690	1000
	3		952	0.95	0.70	0.83						
	5		952	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 30 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	66	897	0.78	0.45	0.57	2.99	2.11	1.14	80	115	166
	3		897	0.94	0.66	0.77						
	5		785	1.09	0.86	0.98						
3	1	66	897	0.79	0.46	0.58	2.99	2.11	1.14	161	230	333
	3		897	0.94	0.67	0.79						
	5		785	1.10	0.87	0.99						
4	1	66	897	0.79	0.47	0.60	3.18	2.31	1.27	241	345	500
	3		897	0.95	0.68	0.80						
	5		785	1.10	0.88	1.00						
5	1	66	897	0.80	0.48	0.61	3.18	2.31	1.27	322	460	666
	3		897	0.95	0.69	0.81						
	5		785	1.10	0.89	1.02						
6	1	66	897	0.80	0.49	0.62	3.18	2.31	1.27	402	575	833
	3		897	0.95	0.70	0.83						
	5		785	1.11	0.90	1.03						



7094 SORT TIMING TABLE										RECORD LENGTH 35 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	57	775	0.78	0.45	0.57	3.49	2.46	1.32	69	98	142
	3		775	0.94	0.66	0.77						
	5		678	1.09	0.86	0.98						
3	1	57	775	0.79	0.46	0.58	3.49	2.46	1.32	138	197	285
	3		775	0.94	0.67	0.79						
	5		678	1.10	0.87	0.99						
4	1	57	775	0.79	0.47	0.60	3.72	2.70	1.49	207	295	428
	3		775	0.95	0.68	0.80						
	5		678	1.10	0.88	1.00						
5	1	57	775	0.80	0.48	0.61	3.72	2.70	1.49	276	394	571
	3		775	0.95	0.69	0.81						
	5		678	1.10	0.89	1.02						
6	1	57	775	0.80	0.49	0.62	3.72	2.70	1.49	345	492	714
	3		775	0.95	0.70	0.83						
	5		678	1.11	0.90	1.03						

7094 SORT TIMING TABLE										RECORD LENGTH 40 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	50	765	0.78	0.45	0.57	3.99	2.81	1.51	60	86	125
	3		680	0.94	0.66	0.77						
	5		680	1.09	0.86	0.98						
3	1	50	765	0.79	0.46	0.58	3.99	2.81	1.51	120	172	250
	3		680	0.94	0.67	0.79						
	5		680	1.10	0.87	0.99						
4	1	50	765	0.79	0.47	0.60	4.25	3.07	1.70	181	258	375
	3		680	0.95	0.68	0.80						
	5		680	1.10	0.88	1.00						
5	1	50	765	0.80	0.48	0.61	4.25	3.07	1.70	241	345	500
	3		680	0.95	0.69	0.81						
	5		680	1.10	0.89	1.02						
6	1	50	765	0.80	0.50	0.62	4.25	3.07	1.70	301	431	625
	3		680	0.95	0.70	0.83						
	5		680	1.11	0.90	1.03						

7094 SORT TIMING TABLE										RECORD LENGTH 45 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	44	673	0.78	0.45	0.57	4.49	3.17	1.70	53	76	111
	3		598	0.94	0.66	0.77						
	5		598	1.09	0.86	0.98						
3	1	44	673	0.79	0.46	0.58	4.49	3.17	1.70	107	153	222
	3		598	0.94	0.67	0.79						
	5		598	1.10	0.87	0.99						
4	1	44	673	0.79	0.47	0.60	4.78	3.46	1.91	161	230	333
	3		598	0.95	0.68	0.80						
	5		598	1.10	0.88	1.00						
5	1	44	673	0.80	0.48	0.61	4.78	3.46	1.91	214	306	444
	3		598	0.95	0.69	0.81						
	5		598	1.10	0.89	1.02						
6	1	44	673	0.80	0.50	0.62	4.78	3.46	1.91	268	383	555
	3		598	0.96	0.70	0.83						
	5		598	1.11	0.90	1.03						

7094 SORT TIMING TABLE										RECORD LENGTH 50 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	40	612	0.78	0.45	0.57	4.98	3.52	1.89	48	69	100
	3		544	0.94	0.66	0.77						
	5		544	1.09	0.86	0.98						
3	1	40	612	0.79	0.46	0.58	4.98	3.52	1.89	96	138	200
	3		544	0.94	0.67	0.79						
	5		544	1.10	0.87	0.99						
4	1	40	612	0.79	0.47	0.60	5.32	3.86	2.13	144	207	300
	3		544	0.95	0.68	0.80						
	5		544	1.10	0.88	1.00						
5	1	40	612	0.80	0.48	0.61	5.32	3.86	2.13	193	276	400
	3		544	0.95	0.69	0.81						
	5		544	1.10	0.89	1.02						
6	1	40	612	0.80	0.50	0.62	5.32	3.86	2.13	241	345	500
	3		544	0.96	0.70	0.83						
	5		544	1.11	0.90	1.03						

7094 SORT TIMING TABLE												RECORD LENGTH 55 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS				
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI		
2	1	36	550	0.78	0.45	0.57	5.48	3.87	2.08	43	62	90		
	3		550	0.94	0.66	0.77								
	5		489	1.09	0.86	0.98								
3	1	36	550	0.79	0.46	0.58	5.48	3.87	2.08	87	125	181		
	3		550	0.94	0.67	0.79								
	5		489	1.10	0.87	0.99								
4	1	36	550	0.79	0.47	0.60	5.84	4.23	2.33	131	188	272		
	3		550	0.95	0.68	0.80								
	5		489	1.10	0.88	1.00								
5	1	36	550	0.80	0.48	0.61	5.84	4.23	2.33	175	250	363		
	3		550	0.95	0.69	0.81								
	5		489	1.10	0.89	1.02								
6	1	36	550	0.80	0.50	0.62	5.84	4.23	2.33	219	313	454		
	3		550	0.96	0.70	0.83								
	5		489	1.11	0.90	1.03								

7094 SORT TIMING TABLE												RECORD LENGTH 60 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS				
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI		
2	1	33	504	0.78	0.45	0.57	5.98	4.22	2.27	40	57	83		
	3		504	0.94	0.66	0.77								
	5		448	1.09	0.86	0.98								
3	1	33	504	0.79	0.46	0.58	5.98	4.22	2.27	80	115	166		
	3		504	0.94	0.67	0.79								
	5		448	1.10	0.87	0.99								
4	1	33	504	0.79	0.47	0.60	6.37	4.61	2.54	120	172	250		
	3		504	0.95	0.68	0.80								
	5		448	1.10	0.88	1.00								
5	1	33	504	0.80	0.48	0.61	6.37	4.61	2.54	161	230	333		
	3		504	0.95	0.69	0.81								
	5		448	1.10	0.89	1.02								
6	1	33	504	0.80	0.50	0.62	6.37	4.61	2.54	201	287	416		
	3		504	0.96	0.70	0.83								
	5		448	1.11	0.90	1.03								

7094 SORT TIMING TABLE												RECORD LENGTH 65 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS				
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI		
2	1	30	459	0.78	0.45	0.57	6.48	4.58	2.46	37	53	76		
	3		459	0.94	0.66	0.77								
	5		459	1.09	0.86	0.98								
3	1	30	459	0.79	0.46	0.58	6.48	4.58	2.46	74	106	153		
	3		459	0.94	0.67	0.79								
	5		459	1.10	0.87	0.99								
4	1	30	459	0.79	0.47	0.60	6.90	5.00	2.76	111	159	230		
	3		459	0.95	0.68	0.80								
	5		459	1.10	0.88	1.00								
5	1	30	459	0.80	0.48	0.61	6.90	5.00	2.76	148	212	307		
	3		459	0.95	0.69	0.81								
	5		459	1.11	0.89	1.02								
6	1	30	459	0.80	0.50	0.62	6.90	5.00	2.76	185	265	384		
	3		459	0.96	0.70	0.83								
	5		459	1.11	0.90	1.03								

7094 SORT TIMING TABLE												RECORD LENGTH 70 WORDS		
ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS				
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI		
2	1	28	428	0.78	0.45	0.57	6.98	4.93	2.65	34	49	71		
	3		428	0.94	0.66	0.77								
	5		428	1.09	0.86	0.98								
3	1	28	428	0.79	0.46	0.58	6.98	4.93	2.65	69	98	142		
	3		428	0.94	0.67	0.79								
	5		428	1.10	0.87	0.99								
4	1	28	428	0.79	0.47	0.60	7.45	5.40	2.98	103	147	214		
	3		428	0.95	0.68	0.80								
	5		428	1.10	0.88	1.00								
5	1	28	428	0.80	0.48	0.61	7.45	5.40	2.98	138	197	285		
	3		428	0.95	0.69	0.81								
	5		428	1.11	0.89	1.02								
6	1	28	428	0.80	0.50	0.62	7.45	5.40	2.98	172	246	357		
	3		428	0.96	0.70	0.83								
	5		428	1.11	0.90	1.03								

## 7094 SORT TIMING TABLE RECORD LENGTH 75 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	26	397	0.78	0.45	0.57	7.48	5.28	2.84	32	46	66
	3		397	0.94	0.66	0.77						
	5		397	1.09	0.86	0.98						
3	1	26	397	0.79	0.46	0.58	7.48	5.28	2.84	64	92	133
	3		397	0.94	0.67	0.79						
	5		397	1.10	0.87	0.99						
4	1	26	397	0.79	0.47	0.60	8.01	5.81	3.21	96	138	200
	3		397	0.95	0.68	0.80						
	5		397	1.10	0.88	1.00						
5	1	26	397	0.80	0.48	0.61	8.01	5.81	3.21	128	184	266
	3		397	0.95	0.69	0.81						
	5		397	1.11	0.89	1.02						
6	1	26	397	0.80	0.50	0.62	8.01	5.81	3.21	161	230	333
	3		397	0.96	0.70	0.83						
	5		397	1.11	0.90	1.03						

## 7094 SORT TIMING TABLE RECORD LENGTH 80 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	25	382	0.78	0.45	0.57	7.97	5.63	3.03	30	43	62
	3		382	0.94	0.66	0.77						
	5		340	1.09	0.86	0.98						
3	1	25	382	0.79	0.46	0.58	7.97	5.63	3.03	60	86	125
	3		382	0.94	0.67	0.79						
	5		340	1.10	0.87	0.99						
4	1	25	382	0.79	0.47	0.60	8.49	6.15	3.39	90	129	187
	3		382	0.95	0.68	0.80						
	5		340	1.10	0.88	1.00						
5	1	25	382	0.80	0.49	0.61	8.49	6.15	3.39	120	172	250
	3		382	0.95	0.69	0.81						
	5		340	1.11	0.89	1.02						
6	1	25	382	0.80	0.50	0.62	8.49	6.15	3.39	150	215	312
	3		382	0.96	0.70	0.83						
	5		340	1.11	0.90	1.03						

## 7094 SORT TIMING TABLE RECORD LENGTH 85 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	23	351	0.78	0.45	0.57	8.48	5.99	3.22	28	40	58
	3		351	0.94	0.66	0.77						
	5		351	1.09	0.86	0.98						
3	1	23	351	0.79	0.46	0.58	8.48	5.99	3.22	56	81	117
	3		351	0.94	0.67	0.79						
	5		351	1.10	0.87	0.99						
4	1	23	351	0.79	0.47	0.60	9.07	6.58	3.64	85	121	176
	3		351	0.95	0.68	0.80						
	5		351	1.10	0.88	1.01						
5	1	23	351	0.80	0.49	0.61	9.07	6.58	3.64	113	162	235
	3		351	0.95	0.69	0.82						
	5		351	1.11	0.89	1.02						
6	1	23	351	0.80	0.50	0.63	9.07	6.58	3.64	142	202	294
	3		351	0.96	0.70	0.83						
	5		351	1.11	0.90	1.03						

## 7094 SORT TIMING TABLE RECORD LENGTH 90 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	22	336	0.78	0.45	0.57	8.97	6.33	3.41	26	38	55
	3		336	0.94	0.66	0.77						
	5		336	1.09	0.86	0.98						
3	1	22	336	0.79	0.46	0.58	8.97	6.33	3.41	53	76	111
	3		336	0.94	0.67	0.79						
	5		336	1.10	0.87	0.99						
4	1	22	336	0.79	0.47	0.60	9.55	6.92	3.81	80	115	166
	3		336	0.95	0.68	0.80						
	5		336	1.10	0.88	1.01						
5	1	22	336	0.80	0.49	0.61	9.55	6.92	3.81	107	153	222
	3		336	0.95	0.69	0.82						
	5		336	1.11	0.89	1.02						
6	1	22	336	0.80	0.50	0.63	9.55	6.92	3.81	134	191	277
	3		336	0.96	0.70	0.83						
	5		336	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 95 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	21	321	0.78	0.45	0.57	9.47	6.68	3.60	25	36	52
	3		321	0.94	0.66	0.77						
	5		321	1.09	0.86	0.98						
3	1	21	321	0.79	0.46	0.58	9.47	6.68	3.60	50	72	105
	3		321	0.94	0.67	0.79						
	5		321	1.10	0.87	0.99						
4	1	21	321	0.79	0.47	0.60	10.16	7.38	4.08	76	108	157
	3		321	0.95	0.68	0.80						
	5		321	1.10	0.88	1.01						
5	1	21	321	0.80	0.49	0.61	10.16	7.38	4.08	101	145	210
	3		321	0.95	0.69	0.82						
	5		321	1.11	0.89	1.02						
6	1	21	321	0.80	0.50	0.63	10.16	7.38	4.08	127	181	263
	3		321	0.96	0.70	0.83						
	5		321	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 100 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	20	306	0.78	0.45	0.57	9.96	7.03	3.78	24	34	50
	3		306	0.94	0.66	0.77						
	5		306	1.09	0.86	0.98						
3	1	20	306	0.79	0.46	0.58	9.96	7.03	3.78	48	69	100
	3		306	0.94	0.67	0.79						
	5		306	1.10	0.87	0.99						
4	1	20	306	0.79	0.47	0.60	10.64	7.71	4.26	72	103	150
	3		306	0.95	0.68	0.80						
	5		306	1.10	0.88	1.01						
5	1	20	306	0.80	0.49	0.61	10.64	7.71	4.26	96	138	200
	3		306	0.95	0.69	0.82						
	5		306	1.11	0.89	1.02						
6	1	20	306	0.80	0.50	0.63	10.64	7.71	4.26	120	172	250
	3		306	0.96	0.70	0.83						
	5		306	1.11	0.90	1.03						

7094 SORT TIMING TABLE RECORD LENGTH 200 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	10	153	0.79	0.45	0.57	19.93	14.07	7.57	12	17	25
	3		153	0.94	0.66	0.77						
	5		153	1.09	0.86	0.98						
3	1	10	153	0.79	0.47	0.58	19.93	14.07	7.57	24	34	50
	3		153	0.94	0.67	0.79						
	5		153	1.10	0.87	0.99						
4	1	10	153	0.79	0.48	0.60	21.63	15.77	8.76	36	51	75
	3		153	0.95	0.68	0.80						
	5		153	1.10	0.88	1.01						
5	1	10	153	0.80	0.49	0.61	21.63	15.77	8.76	48	69	100
	3		153	0.95	0.69	0.82						
	5		153	1.11	0.89	1.02						
6	1	10	153	0.80	0.50	0.63	21.63	15.77	8.76	60	86	125
	3		153	0.96	0.70	0.83						
	5		153	1.11	0.91	1.04						

7094 SORT TIMING TABLE RECORD LENGTH 300 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	6	81	0.79	0.46	0.57	30.02	21.23	11.44	8	11	16
	3		102	0.94	0.66	0.78						
	5		102	1.10	0.86	0.98						
3	1	6	81	0.79	0.47	0.59	30.02	21.23	11.44	16	23	33
	3		102	0.95	0.67	0.79						
	5		102	1.10	0.88	0.99						
4	1	6	81	0.80	0.48	0.60	32.45	23.66	13.14	24	34	50
	3		102	0.95	0.68	0.80						
	5		102	1.10	0.89	1.01						
5	1	6	81	0.80	0.49	0.61	32.45	23.66	13.14	32	46	66
	3		102	0.95	0.69	0.82						
	5		102	1.11	0.90	1.02						
6	1	6	81	0.80	0.50	0.63	32.45	23.66	13.14	40	57	83
	3		102	0.96	0.70	0.83						
	5		102	1.11	0.91	1.04						

## 7094 SORT TIMING TABLE

RECORD LENGTH 400 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	5	76	0.79	0.46	0.57	39.86	28.14	15.14	6	8	12
	3		76	0.94	0.66	0.78						
	5		76	1.10	0.87	0.98						
3	1	5	76	0.79	0.47	0.59	39.86	28.14	15.14	12	17	25
	3		76	0.95	0.67	0.79						
	5		76	1.10	0.88	1.00						
4	1	5	76	0.80	0.48	0.60	45.70	33.98	19.22	18	25	37
	3		76	0.95	0.68	0.81						
	5		76	1.10	0.89	1.01						
5	1	5	76	0.80	0.49	0.62	45.70	33.98	19.22	24	34	50
	3		76	0.96	0.69	0.82						
	5		76	1.11	0.90	1.03						
6	1	5	76	0.81	0.50	0.63	45.70	33.98	19.22	30	43	62
	3		76	0.96	0.70	0.84						
	5		76	1.11	0.91	1.04						

## 7094 SORT TIMING TABLE

RECORD LENGTH 500 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	4	61	0.79	0.46	0.57	49.82	35.17	18.92	4	6	10
	3		61	0.94	0.66	0.78						
	5		61	1.10	0.87	0.98						
3	1	4	61	0.79	0.47	0.59	49.82	35.17	18.92	9	13	20
	3		61	0.95	0.67	0.79						
	5		61	1.10	0.88	1.00						
4	1	4	61	0.80	0.48	0.60	55.30	40.65	22.75	14	20	30
	3		61	0.95	0.68	0.81						
	5		61	1.11	0.89	1.01						
5	1	4	61	0.80	0.49	0.62	55.30	40.65	22.75	19	27	40
	3		61	0.96	0.69	0.82						
	5		61	1.11	0.90	1.03						
6	1	4	61	0.81	0.50	0.63	55.30	40.65	22.75	24	34	50
	3		61	0.96	0.70	0.84						
	5		61	1.11	0.91	1.04						

## 7094 SORT TIMING TABLE

RECORD LENGTH 600 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	3	40	0.79	0.46	0.58	60.03	42.45	22.88	4	5	8
	3		40	0.94	0.66	0.78						
	5		40	1.10	0.87	0.99						
3	1	3	40	0.80	0.47	0.59	60.03	42.45	22.88	8	11	16
	3		40	0.95	0.67	0.80						
	5		40	1.10	0.88	1.00						
4	1	3	40	0.80	0.48	0.61	64.90	47.32	26.28	12	17	25
	3		40	0.95	0.68	0.81						
	5		40	1.11	0.89	1.01						
5	1	3	40	0.80	0.49	0.62	64.90	47.32	26.28	16	23	33
	3		40	0.96	0.69	0.82						
	5		40	1.11	0.90	1.03						
6	1	3	40	0.81	0.50	0.63	64.90	47.32	26.28	20	28	41
	3		40	0.96	0.70	0.84						
	5		40	1.12	0.91	1.04						

## 7094 SORT TIMING TABLE

RECORD LENGTH 700 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	40	0.79	0.46	0.58	70.85	50.34	27.26	3	4	7
	3		40	0.95	0.66	0.78						
	5		40	1.10	0.87	0.99						
3	1	2	40	0.80	0.47	0.59	70.85	50.34	27.26	6	9	14
	3		40	0.95	0.67	0.80						
	5		40	1.10	0.88	1.00						
4	1	2	40	0.80	0.48	0.61	74.50	53.99	29.81	10	14	21
	3		40	0.95	0.69	0.81						
	5		40	1.11	0.89	1.02						
5	1	2	40	0.80	0.49	0.62	74.50	53.99	29.81	13	19	28
	3		40	0.96	0.70	0.83						
	5		40	1.11	0.90	1.03						
6	1	2	40	0.81	0.50	0.64	74.50	53.99	29.81	17	24	35
	3		40	0.96	0.71	0.84						
	5		40	1.12	0.91	1.04						

7094 SORT TIMING TABLE RECORD LENGTH 800 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	34	0.79	0.46	0.58	80.45	57.01	30.79	3	4	6
	3		34	0.95	0.67	0.78						
	5		34	1.10	0.87	0.99						
3	1	2	34	0.80	0.47	0.59	80.45	57.01	30.79	6	8	12
	3		34	0.95	0.68	0.80						
	5		34	1.11	0.88	1.00						
4	1	2	34	0.80	0.48	0.61	84.10	60.66	33.34	9	12	18
	3		34	0.96	0.69	0.81						
	5		34	1.11	0.89	1.02						
5	1	2	34	0.81	0.49	0.62	84.10	60.66	33.34	12	17	25
	3		34	0.96	0.70	0.83						
	5		34	1.11	0.90	1.03						
6	1	2	34	0.81	0.50	0.64	84.10	60.66	33.34	15	21	31
	3		34	0.96	0.71	0.84						
	5		34	1.12	0.91	1.05						

7094 SORT TIMING TABLE RECORD LENGTH 900 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	27	0.79	0.46	0.58	90.05	63.68	34.32	2	3	5
	3		27	0.95	0.67	0.79						
	5		27	1.10	0.87	0.99						
3	1	2	27	0.80	0.47	0.60	90.05	63.68	34.32	5	7	11
	3		27	0.95	0.68	0.80						
	5		27	1.11	0.88	1.01						
4	1	2	27	0.80	0.48	0.61	93.70	67.33	36.87	8	11	16
	3		27	0.96	0.69	0.82						
	5		27	1.11	0.89	1.02						
5	1	2	27	0.81	0.49	0.63	93.70	67.33	36.87	10	15	22
	3		27	0.96	0.70	0.83						
	5		27	1.12	0.90	1.03						
6	1	2	27	0.81	0.50	0.64	93.70	67.33	36.87	13	19	27
	3		27	0.97	0.71	0.84						
	5		27	1.12	0.91	1.05						

7094 SORT TIMING TABLE RECORD LENGTH 1000 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	2	30	0.80	0.46	0.58	99.65	70.35	37.85	2	3	5
	3		30	0.95	0.67	0.79						
	5		30	1.10	0.87	0.99						
3	1	2	30	0.80	0.47	0.60	99.65	70.35	37.85	4	6	10
	3		30	0.95	0.68	0.80						
	5		30	1.11	0.88	1.01						
4	1	2	30	0.80	0.48	0.61	103.30	74.00	40.40	7	10	15
	3		30	0.96	0.69	0.82						
	5		30	1.11	0.89	1.02						
5	1	2	30	0.81	0.49	0.63	103.30	74.00	40.40	9	13	20
	3		30	0.96	0.70	0.83						
	5		30	1.12	0.90	1.04						
6	1	2	30	0.81	0.50	0.64	103.30	74.00	40.40	12	17	25
	3		30	0.97	0.71	0.85						
	5		30	1.12	0.91	1.05						

7094 SORT TIMING TABLE RECORD LENGTH 1500 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 62.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	1	17	0.80	0.47	0.59	151.30	107.35	58.05	1	2	3
	3		17	0.96	0.67	0.80						
	5		17	1.11	0.88	1.00						
3	1	1	17	0.81	0.48	0.61	151.30	107.35	58.05	3	4	6
	3		17	0.96	0.68	0.81						
	5		17	1.11	0.89	1.02						
4	1	1	17	0.81	0.49	0.62	151.30	107.35	58.05	4	6	10
	3		17	0.96	0.69	0.83						
	5		17	1.12	0.90	1.03						
5	1	1	17	0.81	0.50	0.64	151.30	107.35	58.05	6	9	13
	3		17	0.97	0.70	0.84						
	5		17	1.12	0.91	1.04						
6	1	1	17	0.82	0.51	0.65	151.30	107.35	58.05	8	11	16
	3		17	0.97	0.71	0.85						
	5		17	1.13	0.92	1.06						

7094 SORT TIMING TABLE RECORD LENGTH 2000 WORDS

ORDER OF MERGE	NO. OF CTL WORDS	BLKG.	AVERAGE STRING LENGTH	PROCESS TIME			TAPE TIME IN MS/RCD			MAXIMUM NUMBER OF RECORDS IN THOUSANDS		
				MILLISECONDS/RECORD PH1	PH2	PH3	729 IV 82.5KC	729 VI 90KC	7340 170KC	556CPI	800CPI	1511CPI
2	1	1	15	0.81	0.47	0.60	199.30	140.70	75.70	1	1	2
	3		15	0.96	0.68	0.81						
	5		15	1.12	0.88	1.01						
3	1	1	15	0.81	0.48	0.62	199.30	140.70	75.70	2	3	5
	3		15	0.97	0.69	0.82						
	5		15	1.12	0.89	1.03						
4	1	1	15	0.82	0.49	0.63	199.30	140.70	75.70	3	5	7
	3		15	0.97	0.70	0.84						
	5		15	1.12	0.90	1.04						
5	1	1	15	0.82	0.50	0.65	199.30	140.70	75.70	4	6	10
	3		15	0.97	0.71	0.85						
	5		15	1.13	0.91	1.05						
6	1	1	15	0.82	0.51	0.66	199.30	140.70	75.70	6	8	12
	3		15	0.98	0.72	0.86						
	5		15	1.13	0.92	1.07						



**International Business Machines Corporation**  
**Data Processing Division**  
**112 East Post Road, White Plains, N. Y. 10601**