



## PROGRAM SORT

ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
38	8AF0	_SORT	_ORLP2,F0	
A	8980		_ORLP1,80	SWITCH OFF DISPLAY
C	FF		_MOVA,R7	
D	B81C		_MOVR0,1C	
F	533F		_ANLA,3F	
41	E7		_RLA	
2	E7		_RLA	
3	A0		_MOV@R0,A	4TH CHAR IN R4'
4	FE		_MOVA,R6	
5	530F		_ANLA,0F	
7	2F		_XCHA,R7	
8	53C0		_ANLA,C0	
A	4F		_ORLA,R7	
B	47		_SWAPA	
C	18		_INC R0	
D	A0		_MOV@R0,A	3RD CHAR IN R5'
E	FD		_MOVA,R5	
F	5303		_ANLA,03	
51	2E		_XCHA,R6	
2	53F0		_ANLA,F0	
4	4E		_ORLA,R6	
5	77		_RRA	
6	77		_RRA	
7	18		_INC R0	
8	A0		_MOV@R0,A	2ND CHAR IN R6'
9	FD		_MOVA,R5	
A	53FC		_ANLA,FC	
C	18		_INC R0	
D	A0		_MOV@R0,A	1ST CHAR IN R7'
E	2309	_SRTN	_MOVA,09	
60	D7		_MOVPSW,A	SP SET AT 01
1	B808		_MOVR0,08	
3	B0B8		_MOV@R0,B8	
5	18		_INC R0	
6	B001		_MOV@R0,01	STACK SET AT 01B8
8	25		_ENT TCNT1	
9	FF		_MOVA,R7	RESTORE A
A	93		_RETR	

PROGRAM DPLAY

ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
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80	B920	_DPLAY	_MOVR1,20	
2	8980		_ORLP1,80	_COL 5 BLANK
4	3480		_CALL DRIV	
6	9A7F		_ANLP2,7F	_COL 1 LIT
8	19		_INC R1	
9	BCFF		_MOVR4,FF	
B	EC8B	_LOOP1	_DJNZR4,LOOP1	_DELAY
D	8A80		_ORLP2,80	_COL 1 BLANK
F	3480		_CALL DRIV	
91	9ABF		_ANLP2,BF	_COL 2 LIT
3	19		_INC R1	
4	BCFF		_MOVR4,FF	
6	EC96	_LOOP2	_DJNZR4,LOOP2	_DELAY
8	8A40		_ORLP2,40	_COL 2 BLANK
A	3480		_CALL DRIV	
C	9ADF		_ANLP2,DF	_COL 3 LIT
E	19		_INC R1	
F	BCFF		_MOVR4,FF	
A1	ECA1	_LOOP3	_DJNZR4,LOOP3	_DELAY
3	8A20		_ORLP2,20	_COL 3 BLANK
5	3480		_CALL DRIV	
7	9AEF		_ANLP2,EF	_COL 4 LIT
9	19		_INC R1	
A	BCFF		_MOVR4,FF	
C	ECAC	_LOOP4	_DJNZR4,LOOP4	_DELAY
E	8A10		_ORLP2,10	_COL 4 BLANK
B0	3480		_CALL DRIV	
2	997F		_ANLP1,7F	_COL 5 LIT
4	BCFD		_MOVR4,FD	
6	ECB6	_LOOP5	_DJNZR4,LOOP5	_DELAY
8	25		_EN TCNT1	
9	0480		_JMP DPLAY	

PROGRAM PREP (i)				
ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
100	D5	PREP	_SEL RB1	
1	B820		_MOVR0,20	
3	FC		_MOVA,R4	
4	A9		_MOVR1,A	
5	E3		_MOV3PA@A	
6	A0		_MOV@R0,A	4[i]
7	B824		_MOVR0,24	
9	19		_INC R1	
A	F9		_MOVA,R1	
B	E3		_MOV3PA@A	
C	A0		_MOV@R0,A	4[ii]
D	B828		_MOVR0,28	
F	19		_INC R1	
110	F9		_MOVA,R1	
1	E3		_MOV3PA@A	
2	A0		_MOV@R0,A	4[iii]
3	B82C		_MOVR0,2C	
5	19		_INC R1	
6	F9		_MOVA,R1	
7	E3		_MOV3PA@A	
8	A0		_MOV@R0,A	4[iv]
9	B830		_MOVR0,30	
B	F9		_MOVA,R1	
C	77		_RRA	
D	77		_RRA	
E	A3		_MOVPA@A	
F	A0		_MOV@R0,A	4[v]
120	B821		_MOVR0,21	
2	FD		_MOVA,R5	
3	A9		_MOVR1,A	
4	E3		_MOV3PA@A	
5	A0		_MOV@R0,A	3[i]
6	B825		_MOVR0,25	
8	19		_INC R1	
9	F9		_MOVA,R1	
A	E3		_MOV3PA@A	
B	A0		_MOV@R0,A	3[ii]
C	B829		_MOVR0,29	
E	19		_INC R1	
F	F9		_MOVA,R1	
130	E3		_MOV3PA@A	
1	A0		_MOV@R0,A	3[iii]
2	B82D		_MOVR0,2D	
4	19		_INC R1	
5	F9		_MOVA,R1	
6	E3		_MOV3PA@A	
7	A0		_MOV@R0,A	3[iv]

PROGRAM PREP (ii)				
ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
138	B831		_MOVR0,31	
A	F9		_MOVA,R1	
B	77		_RRA	
C	77		_RRA	
D	A3		_MOVPA@A	
E	A0		_MOV@R0,A	_3[v]
F	B822		_MOVR0,22	
141	FE		_MOVA,R6	
2	A9		_MOVR1,A	
3	E3		_MOV3PA@A	
4	A0		_MOV@R0,A	_2[i]
5	B826		_MOVR0,26	
7	19		_INC R1	
8	F9		_MOVA,R1	
9	E3		_MOV3PA@A	
A	A0		_MOV@R0,A	_2[ii]
B	B82A		_MOVR0,2A	
D	19		_INC R1	
E	F9		_MOVA,R1	
F	E3		_MOV3PA@A	
150	A0		_MOV@R0,A	_2[iii]
1	B82E		_MOVR0,2E	
3	19		_INC R1	
4	F9		_MOVA,R1	
5	E3		_MOV3PA@A	
6	A0		_MOV@R0,A	_2[iv]
7	B832		_MOVR0,32	
9	F9		_MOVA,R1	
A	77		_RRA	
B	77		_RRA	
C	A3		_MOVPA@A	
D	A0		_MOV@R0,A	_2[v]
E	B823		_MOVR0,23	
160	FF		_MOVA,R7	
1	A9		_MOVR1,A	
2	E3		_MOV3PA@A	
3	A0		_MOV@R0,A	_1[i]
4	B827		_MOVR0,27	
6	19		_INC R1	
7	F9		_MOVA,R1	
8	E3		_MOV3PA@A	
9	A0		_MOV@R0,A	_1[ii]
A	B82B		_MOVR0,2B	
C	19		_INC R1	
D	F9		_MOVA,R1	
E	E3		_MOV3PA@A	
F	A0		_MOV@R0,A	_1[iii]









PROGRAM CLKTIM				
ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
200	AF	_CLKTIM	_MOVR7,A	_SAVE A
1	2306		_MOVA,06	
3	62		_MOVT,A	_RESET TIMER = 20mS
4	B83F		_MOVR0,3F	
6	10		_INC@R0	_INC 20mS
7	2319		_MOVA,19	_25D
9	D0		_XRLA@R0	_SEE IF 0.5 SEC
A	C663		_JZ SETCK	_SEE IF CLOCK SET REQ'D
C	2332	_BACK	_MOVA,32	_50D
E	D0		_XRLA@R0	_SEE IF 1.0 SEC
F	9661		_JNZ RETN	_JMP IF NO
211	20		_XCHA@R0	_CLR 20mS
2	C8		_DEC R0	
3	10		_INC@R0	_INC SECS
4	233C		_MOVA,3C	_60D
6	D0		_XRLA@R0	_SEE IF 1.0 MINUTE
7	9661		_JNZ RETN	_JMP IF NO
9	20	_SETMIN	_XCHA@R0	_CLR SECS
A	C8		_DEC R0	
B	97		_CLR C	
C	10		_INC@R0	_INC MINS
D	F0		_MOVA@R0	
E	57		_DAA	
F	A0		_MOV@R0,A	_STORE NEW MINS BCD
220	D360		_XRLA,60	_SEE IF 1.0 HOUR
2	9632		_JNZ CLKSORT	_JMP IF NO
4	20		_XCHA@R0	_CLR MINS
5	7632		_JF1 CLKSORT	_JMP IF SETTING TIME
7	C8	_SETHRS	_DEC R0	
8	97		_CLR C	
9	10		_INC@R0	_INC HOURS
A	F0		_MOVA@R0	
B	57		_DAA	
C	A0		_MOV@R0,A	_STORE NEW HOURS BCD
D	D324		_XRLA,24	_SEE IF 24 HOURS
F	9632		_JNZ CLKSORT	_JMP IF NO
231	20		_XCHA@R0	_TIME AT 00 HOURS
2	B83C	_CLKSORT	_MOVR0,3C	_R0 AT HOURS
4	B91F		_MOVR1,1F	_R1 AT R7'
6	23F0		_MOVA,F0	
8	50		_ANLA@R0	
9	4303		_ORLA,03	
B	77		_RRA	
C	77		_RRA	
D	A1		_MOV@R1,A	_1ST CHAR IN R7'
E	C9		_DEC R1	
F	230F		_MOVA,0F	

PROGRAM CLKTIM (CONT'D)

ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
241	50		ANLA@R0	
2	4330		ORLA,30	
4	E7		RLA	
5	E7		RLA	
6	A1		MOV@R1,A	2ND CHAR IN R6'
7	C9		DEC R1	
8	18		INC R0	AT MINS BCD
9	23F0		MOVA,F0	
B	50		ANLA@R0	
C	4303		ORLA,03	
E	77		RRA	
F	77		RRA	
250	A1		MOV@R1,A	3RD CHAR IN R5'
1	C9		DEC R1	
2	230F		MOVA,0F	
4	50		ANLA@R0	
5	4330		ORLA,30	
7	E7		RLA	
8	E7		RLA	
9	A1		MOV@R1,A	4TH CHAR IN R4'
A	8AF0		ORLP2,F0	
C	8980		ORLP1,80	SWITCH OFF DISPLAY
E	A5		CLR F1	
F	045E		JMP SRTN	
261	FF	RETN	MOVA,R7	RESTORE A
2	93		RETR	
3	2669	SETCK	JNT0 MSET	JMP IF T0 = 0
5	866E		JNI HSET	JMP IF INT = 0
7	440C		JMP BACK	ELSE
9	A0	MSET	MOV@R0,A	CLR 20mS
A	C8		DEC R0	
B	B5		CPL F1	PREVENT MINS SETTING HOURS
C	4419		JMP SETMIN	
E	A0	HSET	MOV@R0,A	CLR 20mS
F	C8		DEC R0	
270	A0		MOV@R0,A	CLR SECS
1	C8		DEC R0	AT MINS
2	4427		JMP SETHRS	

PROGRAM WORDS				
ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
280	B91F	WORDS	_MOVR1,1F	_AT ASCII 1
2	F1		_MOVA@R1	
3	4303		_ORLA,03	_ASSUME ALWAYS NUMERIC
5	AD		_MOVR5,A	_1ST WORD
6	C9		_DEC R1	_AT ASCII 2
7	F1		_MOVA@R1	
8	E7		_RLA	
9	E7		_RLA	
A	53F0		_ANLA,F0	
C	AE		_MOVR6,A	
D	C9		_DEC R1	_AT ASCII 3
E	F1		_MOVA@R1	
F	47		_SWAP A	
290	AF		_MOVR7,A	
1	530F		_ANLA,0F	
3	4E		_ORLA,R6	
4	AE		_MOVR6,A	_2ND WORD
5	C9		_DEC R1	_AT ASCII 4
6	F1		_MOVA@R1	
7	77		_RRA	
8	77		_RRA	
9	533F		_ANLA,3F	
B	2F		_XCHA,R7	
C	53C0		_ANLA,C0	
E	4F		_ORLA,R7	
F	AF		_MOVR7,A	_3RD WORD
2A0	23FF	_SEND	_MOVA,FF	
2	02		_OUTL BUS,A	
3	B903		_MOVR1,03	
5	BB08		_M0VR3,08	
7	FD		_MOVA,R5	_1ST WORD TX
8	F7	_LOOP4	_RLCA	
9	E6B4		_JNC LOOP3	
B	98FE		_ANL BUS,FE	_DATA=1
D	44C0		_JMP CLCK1	
F	F7	_LOOP2	_RLCA	
2B0	F6B9		_JC LOOP1	
2	8802		_ORL BUS,02	_CLOCK=0
4	8801	_LOOP3	_ORL BUS,01	_DATA=0
6	97		_CLR C	_REQ'D FOR DAA IN "CLKTIM"
7	44C0		_JMP CLCK1	
9	8802	_LOOP1	_ORL BUS,02	_CLOCK=0
B	98FE		_ANL BUS,FE	_DATA=1
D	97		_CLR C	_REQ'D FOR DAA IN "CLKTIM"
E	44C0		_JMP CLCK1	
2C0	98FD	_CLCK1	_ANL BUS,FD	_CLOCK=1
2	EBAF		_DJNZR3,LOOP2	



PROGRAM DATA2				
ADDRESS	HEX CODE	LABEL	MNEMONIC	COMMENTS
300	BEC1DDD5			
	FE898989			
	FFC9C9C9			
	BEC1C1C1			
310	FFC1C1A2			
	FFC9C9C9			
	FF898989			
	BEC1C1D1			
320	FF888888			
	80C1FFC1			
	A0C0C0BF			
	FF8994A2			
330	FFC0C0C0			
	FF828C82			
	FF848890			
	BEC1C1C1			
340	FF898989			
	BEC1D1A1			
	FF8999A9			
	C6C9C9C9			
350	8181FF81			
	BFC0C0C0			
	8798E098			
	BFC0B8C0			
360	E3948894			
	8384F884			
	E1D1C9C5			
	A29C9C9C			
370	8894AA94			
	94A280A2			
	AAC180C1			
	80808080			
380	80808080			
	80C2FFC0			
	F2C9C9C9			
	A1C1C9CD			
390	BEC18080			
	8C8C8898			
	B0B08886			
	E0F08887			
3A0	80E0FF83			
	838788F0			
	A294FF94			
	80889CBE			
3B0	889CBEC1			
	88888888			
	9CBEC180			

