



SYSTEMS PROGRAMMING CORPORATION

an affiliate of Mesa Scientific Corporation

1833 EAST 17TH STREET, SANTA ANA, CALIFORNIA

September 21, 1964

Dear Dr. Knuth:

We are enclosing the 344 FORTRAN listing you requested. We were unable to get this in the mail to you on Friday. However, we hope it reaches you before you leave for vacation.

Let us know if we can be of any further assistance to you.

Sincerely,

Dick Mailander
Dick Mailander

LOS ANGELES
JEFFRIES BANKNOTE COMPANY

101
10
11

A → 26
I → 44
11 ← 5
2 ← 2

Handwritten notes and calculations including:
1500 BK
*
+ A B C D
= F
= I
10/5
= 2
= 3
= 4
= 5
= 6
= 7
= 8
= 9
= 10
= 11
= 12
= 13
= 14
= 15
= 16
= 17
= 18
= 19
= 20
= 21
= 22
= 23
= 24
= 25
= 26
= 27
= 28
= 29
= 30
= 31
= 32
= 33
= 34
= 35
= 36
= 37
= 38
= 39
= 40
= 41
= 42
= 43
= 44
= 45
= 46
= 47
= 48
= 49
= 50
= 51
= 52
= 53
= 54
= 55
= 56
= 57
= 58
= 59
= 60
= 61
= 62
= 63
= 64
= 65
= 66
= 67
= 68
= 69
= 70
= 71
= 72
= 73
= 74
= 75
= 76
= 77
= 78
= 79
= 80
= 81
= 82
= 83
= 84
= 85
= 86
= 87
= 88
= 89
= 90
= 91
= 92
= 93
= 94
= 95
= 96
= 97
= 98
= 99
= 100

172	1406410003	C01900	ADD	U	#10003		IC00A
173	0456044331	C02000	SRB		YY		IC00A
174	0436400001	C02100	DIX	11 L	1		IC00A
175	0434042422	C02200	STR	11 L	HG	D#D-1	IC00A
176	0100040357	C02300	BNX	12	ZP+2	JUMP IF LO NOT BUN	IC00A
177	0404400037	C02400	LDD	A L	#37	ERROR(J)	IC00A
180	0456044635	C02500	SRB		OC	OUTPUT ERROR	IC00A
181	0000040357	C02600	BUN		ZP+2		IC00A
182	0436400001	C02700	DIX	11 L	1	I#1-1	IC00A
183	1633550214	C02800	COM	NE M	UJ+1,1		IC00A
184	0000040377	C02900	BUN		EL	ERR IF NO.#DO(1)	IC00A
185	0070040402	C03000	BNX	11	EI	RESCAN IF I NOT 0	IC00A
186	0034440624	C03100	LDD	11	MB		IC00A
187	0536400110	C03200	DIX	11 LZ	72		IC00A
188	0456040713	C03300	SRB		XL	IS CARD COL.#1	IC00A
189	0070040406	C03400	BNX	11	\$-3	NO, INPUT NEXT CARD	IC00A
192	0004440767	C03500	LDD	A	MC	BACK IF CONTINUATION	IC00A
193	0426400066	C03600	SUB		#66		IC00A
194	0160042036	C03700	BZE		GU	JUMP IF F-CARD	IC00A
195	0404400052	C03800	LDD	A L	#52	COL.6#STOP	IC00A
196	0404040774	C03900	STR	A L	MC+5		IC00A
197	0456041116	C04000	SRB		ZZ	INPUT ST#	IC00A
198	0434042435	C04100	STR	11 L	YU	SET LAST ST. NO. SAVE	IC00A
199	0160040437	C04200	BZE		YV		IC00A
200	0164443570	C04300	LDD	R	FJ		IC00A
203	0564042572	C04400	STR	R L	UD		IC00A
204	0564410000	C04500	LDD	B L	#10000		IC00A
205	0010044623	C04600	BZM		WL	ERROR(E) IF NOT STR	IC00A
206	0433445141	C04700	COM	E0	KR	WAS ST# USED PRIOR	IC00A
207	0456044331	C04800	SRB		YY	YES, STRING LP/AF15	IC00A
208	0404405302	C04900	LDD	A L	#5302		IC00A
209	0013444476	C05000	MRG		AU		IC00A
210	0004146503	C05100	STR	A	00,1		IC00A
211	0434046355	C05200	STR	11 L	PM		IC00A
212	1404407770	C05300	LDD	A U	#7770		IC00A
213	0564400026	C05400	LDD	B L	#26		IC00A
214	0456045201	C05500	SRB		PZ		IC00A
215	0044440635	C05600	LDD	12 LZ	QH		IC00A
216	0546440052	C05700	DIX	12 LZ	#52		IC00A
217	0000044625	C05800	BUN		GD		IC00A
218	0004447614	C05900	LDD	A	XZ		IC00A
219	0004041561	C06000	STR	A	YB		IC00A

PAGE 005

D#D-1
 JUMP IF LO NOT BUN
 ERROR(J)
 OUTPUT ERROR
 I#1-1
 ERR IF NO.#DO(1)
 RESCAN IF I NOT 0
 IS CARD COL.#1
 NO, INPUT NEXT CARD
 BACK IF CONTINUATION
 JUMP IF F-CARD
 COL.6#STOP
 INPUT ST#
 SET LAST ST. NO. SAVE
 YES, STRING LP/AF15
 ERROR(E) IF NOT STR
 WAS ST# USED PRIOR
 YES, STRING LP/AF15

72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

I don't know what this does, acts PA ← (A), but really, outputs nothing at least unless debugging.
 ERROR IF TERM NOT STOP
 SET LAST ST. NO. SAVE (11 is there in original title, IA = 0 if sequential number - by separating peripherals)
 YES, STRING LP/AF15 ← I haven't done this yet
 ERROR(E) IF NOT STR If already defined
 WAS ST# USED PRIOR
 YES, STRING LP/AF15

00515 0000042245 C10300
 00516 0065000000 C10400
 00517 0455000000 C10500
 00520 0406400077 C10600
 00521 0404040531 C10700
 00522 0436400027 C11800
 *** E20 SC10900 C03
 00523 0036440531 C10900
 00524 0004544734 C11000
 00525 0013437777 C11100
 00526 0556444752 C11200
 00527 0130042053 C11300
 00530 0403400007 C11400
 00531 1160040531 C11500
 00532 0456040606 C11600
 00533 0123544775 C11700
 00534 0436400026 C11800
 00535 0164447614 C11900
 00536 0010040531 C12000
 00537 0404040542 C12100
 00540 0404400034 C12200
 00541 0456044635 C12300
 00542 0404440542 C12400
 00543 0000040530 C12500
 00544 0404400002 C12600
 00545 0456040606 C12700
 00546 1526411352 C12800
 00547 0000042247 C12900
 00550 0000040510 C13000
 00551 0456040616 C13010
 00552 0523400023 C13020
 00553 0456040636 C13030
 00554 0120043642 C13040
 00555 0404400003 C13050
 00556 0456040606 C13060
 00557 0126440564 C13070
 00560 0000042621 C13080
 00561 0564445034 C13090
 00562 0564040531 C13100
 00563 0000043654 C13110
 00564 0654761000 C13120
 00565 0456040616 C13130

UF

BUN	XC	ZS-2	
RAW	13		
RMA			
ADD	L	63	ADD L 64 40640000
STR	A	L	SET EXIT ADDRESS
DIX	11	L	23
			LDD I / L WI 434445034
DIX	11	L	22
LDD	B	XZ	
BZM		HY	
STR	A	L	HY
LDD	A	L	\$+3
SRB		DC	#34
LDD	A	L	\$
BUN		HY-1	
LDD	A	L	2
SRB		WA	#11352
SUB		UZ	
BUN		ZS	
BUN		ME	
SRB		XN	
XOK		LZ	#23
SRB		ZO	
BNZ		UG	
LDD	A	L	3
SRB		WA	\$+5
SUB		Z	
BUN		BI	
LDD	B	L	WI
STR	B	L	HY
BUN		UC	654761000
OCTL		XN	
SRB			

DIX I / L 23 436400027

703	0004440774	C21600	L0D	A	L	MC+5	IC00A
704	042340012	C21700	X0R			#12	IC00A
705	0160040710	C21800	BZE			\$+3	IC00A
706	0523400032	C21900	X0R		LZ	#32	IC00A
707	0454400102	C22000	L0D	13	L	66	IC00A
710	0454040624	C22100	STR	13	L	MR	IC00A
711	0164440642	C22200	L0D	B		IC	IC00A
712	0024440636	C22300	L0D	C		Z0	IC00A
713	0000040713	C22400	BUN			\$	IC00A
714	0164040642	C22500	STR	B		IC	IC00A
715	0024040636	C22600	STR	C		Z0	IC00A
716	0454400111	C22700	L0D	13	L	73	IC00A
717	0004444474	C22800	L0D	A		SJ	IC00A
720	0526401027	C22900	SUB		LZ	#1027	IC00A
721	0000040654	C23000	BUN			JJ	IC00A
722	0020441100	C23100	OEX	1		2, VD	IC00A
723	0456045075	C23200	SRB			SZ	IC00A
724	0004745333	C23300	L0D	A		VA+73,3	IC00A
725	0556400001	C23400	DIX	13	LZ	1	IC00A
726	0004341077	C23500	STR	A		MC+72,3	IC00A
727	0110040724	C23600	BNX	13		\$-3	IC00A
730	0010441100	C23700	OEX	1		1, VD	IC00A
731	0456045075	C23800	SRB			SZ	IC00A
732	0000040677	C23900	BUN			VC	IC00A
733	0464400022	C24000	L0D	X	L	18	IC00A
734	0663440743	C24100	SCN	EQ	M	JM	IC00A
735	0464440742	C24200	L0D	X	L	JM-1	IC00A
736	0464040737	C24300	STR	X	L	\$+1	IC00A
737	0004440737	C24400	L0D	X	L	\$	IC00A
740	0445400022	C24500	ARO			18	IC00A
741	0000040672	C24600	BUN			JK	IC00A
742	0052572013	C24700	OCTL			52572013	IC00A
743	0020202013	C24800	OCTL			20202013	IC00A
744	0060132215	C24900	OCTL			60132215	IC00A
745	0040212316	C25000	OCTL			40212316	IC00A
746	0033402417	C25100	OCTL			33402417	IC00A
747	0073732520	C25200	OCTL			73732520	IC00A
750	0012576053	C25300	OCTL			12576053	IC00A
751	0001576154	C25400	OCTL			01576154	IC00A
752	0002366255	C25500	OCTL			02366255	IC00A
753	0003136356	C25600	OCTL			03136356	IC00A
754	0004536457	C25700	OCTL			04536457	IC00A

column 6 = retail (2) → retail use this to 72 (col 1)
 "5" → see out at the 66 (col 7)
 custom B, C = 0 ↔ need a permutation card
 move +A = 0
 without need card:
 move B, C.

Inter-locks or back?

ST.#	INPUT	SUBROUTINE	IC00A
135	10350	41135	IC00A
136	04560	41116	IC00A
137	01200	41135	IC00A
140	00000	444625	IC00A
			IC00A
141	00000	41141	IC00A
142	04044	00000	IC00A
143	00040	41561	IC00A
144	04560	41150	IC00A
145	00244	47614	IC00A
146	00240	41561	IC00A
147	00000	41141	IC00A
			IC00A
150	00000	41150	IC00A
151	04560	41157	IC00A
152	01600	44625	IC00A
153	01300	41150	IC00A
154	00400	41150	IC00A
155	04044	00031	IC00A
156	00000	44626	IC00A
			IC00A
157	00000	41157	IC00A
160	04560	41202	IC00A
161	01600	41157	IC00A
162	01660	00000	IC00A
163	04560	41501	IC00A
164	11660	41157	IC00A
			IC00A
165	00044	45217	IC00A
166	00000	41166	IC00A
167	04560	41276	IC00A
170	04044	00012	IC00A
171	04560	41465	IC00A
172	00044	45217	IC00A
173	04264	10000	IC00A
174	00300	41165	IC00A
175	00000	44625	IC00A
			IC00A
176	04044	00013	IC00A
177	00040	40635	IC00A
200	04560	40636	IC00A

for even

ST.# INPUT SUBROUTINE

ZZ INPUT ST. #

OD INPUT NON-CON W/O AS SIGNING

INPUT NON-CON

YB SMIT#+

BT INPUT NON-CONSTANT

XZ

YB SMIT#SPEC

HC RETURN

INPUT NON-CON SUBROUTINE

\$

ZN

OD

BT RETURN IF NOT LP

BT RETURN IF FUN/ARR

#31 ERROR(D)

IT

INPUT V SUBROUTINE

\$

ZO INPUT N

ZN RETURN IF NO OPERAND

XZ ASSIGN ~

ZN RETURN

INPUT INTEGER SUBROUTINE

TI (A)#INT

\$ RETURN

CM INITIALIZE

#12

CP CONVERT

TI

4096

TZ ERROR IF INT 6TH 4095

OD INPUT N SUBROUTINE

#13

OH

uninput

01	0446020000	C34200	Y1
02	0000041202	C34300	Z0
03	0456041276	C34400	
04	0456040611	C34500	
05	0120041336	C34600	
06	0004440635	C34700	
07	0426400013	C34800	
10	0160041311	C34900	
11	0426400060	C35000	
12	0160041347	C35100	
13	0564410000	C35200	
14	0506400002	C35300	
15	0406400033	C35400	
16	0503400770	C35500	
17	0564420000	C35600	
20	0564041234	C35700	
21	0004440635	C35800	
22	0456041271	C35900	
23	0120041201	C36000	
24	0456041253	C36100	
25	0004440635	C36200	
26	0526400066	C36300	
27	0000041234	C36400	
30	0025000000	C36500	
31	0505400062	C36600	
32	0425000000	C36700	
33	0456040616	C36800	
34	1404441234	C36900	YG
35	0505400004	C37000	
36	0404400073	C37100	YF
37	0433440635	C37200	
40	1025041252	C37300	
41	0164045217	C37400	
42	0024045216	C37500	
43	0456041253	C37600	
44	0004440635	C37700	
45	0523400073	C37800	
46	0000044625	C37900	
47	0004445216	C38000	
50	0164445217	C38100	
51	0024040635	C38200	
52	1166041202	C38300	TY

ZAB	BUN	SRB	SRB	BNZ	LDD	SUB	BZE	SUB	LDD	ADD	ADD	EXT	LDD	STR	LDD	SUB	SUB	RAM	BLC	RMA	SRB	LDD	BLC	LDD	LDD	COM	RAW	STR	STR	SRB	LDD	XOR	BUN	LDD	LDD	STR	EAM			

RETURN ✓
 INITIALIZE
 INPUT DIGIT
 GO TO INTEGER CONV.
 NOT INTEGER
 IS LOGICAL
 YES, GO TO LOG CONV.
 NO, IS PERIOD
 TO REAL CONVERSION

NO
 TYPE VARIABLE
 NO, V#REA
 OPERATOR TEST
 EXIT IF OPERATOR ONLY
 INPUT STRING

SKIP IF TERM NOT F (only on 7 var substitution)
 STRIP F
 INPUT CHARACTER
 STRING COMPLETE
 IS TERM#.
 NO, RETURN
 YES
 INPUT STRING

IS TERM#.
 NO, CONST. ERROR
 YES
 A#V B#VP
 TERM#OPERATOR
 RETURN

CM #33
 XP #770
 CJ #20000
 OH #10000
 #2
 #33
 #770
 #20000
 #10000
 #60
 CX
 #66
 YG
 50
 XN
 4
 #73
 OH
 TY
 TI
 TH
 YH
 OH
 OD
 TH
 TI
 OH
 Z0

3	0000041253	C38400	YH
4	0446020000	C38600	
5	0505400006	C38700	
6	0006440635	C38800	
7	0425000000	C38900	
8	0404437400	C39000	
9	0020041253	C39100	
10	0456040616	C39200	
11	0456041271	C39300	
12	0120041253	C39400	
13	1025041255	C39500	
14	0503400007	C39600	
15	0055000000	C39700	DK
16	0403400010	C39800	
17	0000041271	C39900	YJ
18	0526400021	C40000	
19	0506400007	C40100	
20	0406400011	C40200	
21	0406400011	C40300	
22	1455041266	C40400	
23	0000041276	C40500	
24	0404400001	C40600	CM
25	0404401406	C40700	
26	0404400000	C40800	
27	0404401401	C40900	
28	0404041462	C41000	
29	0004045221	C41100	
30	0404041456	C41200	
31	0004045216	C41300	
32	0004045217	C41400	
33	0000041276	C41500	
34	0456040611	C41600	
35	0120041321	C41700	
36	0004440635	C41800	CK
37	0456041271	C41900	
38	0160041176	C42000	
39	0456041451	C42100	
40	0456040611	C42200	
41	0160041376	C42300	
42		C42400	CO
43		C42500	

REMK	BUN	C	#37400	EXIT IF IJ CHARS.
ZAB	BLC	L	YH	INPUT CHAR
ADD	RWA	A	XN	OPERATOR TEST
LOD	BNM	C	YJ	RETURN IF OPERATOR
BNM	SRB	L	YH	
SRB	SRB			
SRB	BNZ			
RAW	RAW	C	YH+2	OPERATOR TEST (YJ)
REMK	EXT	J	OPERATOR TEST	
EXT	RAW	LZ	#7	
EXT	EXT	L	#10	
BUN	BUN	L	#21	
SUB	ADD	LZ	#7	
ADD	ADD	L	#11	
RWA	REMK	I3	DK	
REMK	BUN			
BUN	LOD	A	1	
LOD	STR	L	UM	
STR	LOD	A	0	
LOD	STR	A	UV	
STR	STR	A	CS	
STR	STR	A	TK	
STR	STR	A	UY	
STR	STR	A	TH	
STR	STR	A	TI	
STR	BUN	A	CM	
REMK	REMK		XP	
SRB	SRB		\$+7	
BNZ	LOD	A	OH	
LOD	SRB		YJ	
SRB	BZE		YI-3	
BZE	SRB		CN	
SRB	SRB		XP	
BZE	BZE		CU-1	

INPUT STRING identifier
you A and B (apparently)
Find char and 2 bits of next case
if char is B; 8 above with next bit

INITIALIZE ROUTINE
 ENTRY-EXIT
 1 TO A
 D#1

F1#0
F2#0
R#0
R1#0
T#0
N#0
 RETURN
 LOGICAL CONVERSION
 TO INPUT DIGIT

TO SIGN TEST
TO INPUT DIGIT
TO TERMINATE

else X1 → 0
convert 1 → 0
add 0 → 0
add (1-7) → 10
else 0 → 10

you for letter or digit
10 for other

511	0000041542	C55200	XT
512	0065000000	C55300	
513	0446010000	C55400	
514	0406445344	C55500	
515	0435000000	C55600	
516	0166000000	C55700	
517	0564407760	C55800	
520	0633546503	C55900	
521	11660041504	C56000	
522	0164546503	C56100	
523	0404400003	C56200	
524	1020041501	C56300	
525	0004441561	C56400	
526	0130041500	C56500	
527	0404400034	C56600	
530	0433440635	C56700	
531	0000041535	C56800	
532	0404410001	C56900	
533	0020041556	C57000	
534	0000041555	C57100	
535	0404410002	C57200	
536	0020041556	C57300	
537	0404420000	C57400	
540	0066441560	C57500	
541	1025041556	C57600	
542	0004441505	C57700	XT
543	0406400001	C57800	
544	0404041505	C57900	
545	0446010000	C58000	
546	0435000000	C58100	
547	0503400777	C58200	
550	0426400014	C58300	
551	0160041562	C58400	
552	0024145344	C58500	
553	0604400003	C58600	
554	0160041525	C58700	
555	1404437777	C58800	XX
556	0013437777	C58900	
557	1166041500	C59000	
560	0000000002	C59100	BE
561	0000000000	C59200	YB
562	0404041505	C59300	YZ

BUN	XC	XT	NO, GO TO	XC	IC00A
RAM			YES		IC00A
CMP					IC00A
ADD	L	AT			IC00A
RWA	11				IC00A
EAW	B		IS VP#VPA		IC00A
LDD	B	#7760	<i>make</i>		IC00A
COM	EQ	00,1			IC00A
EAW	B	XS+3			IC00A
LDD	B	00,1			IC00A
LDD	A	3			IC00A
BNM		(XS)	YES		IC00A
LDD	A	YB	IS VP#ASS		IC00A
BPO	A	XY	YES, RETURN		IC00A
LDD	A	#34	NO, IS SWIT#MINUS		IC00A
COM	EQ	GH	NO, GO TO 4		IC00A
BUN		\$+4			IC00A
LDD	A	#10001	IS TERM#(IC00A
BNM		XX+1	NO, SKIP		IC00A
BUN		XX	YES, IS VP#DUM		IC00A
LDD	A	#10002	NO, V#STR-FUN		IC00A
BNM		XX+1	IS VP#DUM		IC00A
LDD	A	#20000	YES, V#VAR, GO TO 4		IC00A
ADM	C	BE	NO		IC00A
RAW	C	XX+1	LD#LD+1		IC00A
LDD	A	XW	AF#LD, V#VAR, GOTO 4		IC00A
ADD	L	1	ABAR#ABAR+1		IC00A
STR	A	XW			IC00A
CMP					IC00A
RWA	11				IC00A
EXT	LZ	#777	A#ABAR		IC00A
SUB	L	#14	<i>avoid 12</i>		IC00A
BZE	YZ	AT,1	<i>steal for 500 (table full)</i>		IC00A
STR	C	VA#V			IC00A
LDD	LM	IS V#ASS			IC00A
BZE	U	NO, GO TO 2			IC00A
LDD	B	#37777	V#STR		IC00A
MRG	J	XY			IC00A
EAW	J	LD AT 15			IC00A
OCTL	L	SWITCH			IC00A
STR	L	0			IC00A

01563	0404400040	C59400	LDD	A	L	#40	IC00A
01564	0456044635	C59500	SRB			DC	IC00A
01565	0000041542	C59600	BUN			XT	IC00A
01566	0000041566	C59700	REMK) OPERATOR TEST	IC00A
01567	0456041572	C59800	BUN			\$	IC00A
01570	0456040616	C59900	SRB			EA	IC00A
01571	0000041566	C60000	SRB			XN	IC00A
		C60100	SRB			BM	IC00A
		C60200	BUN) TEST	IC00A
01572	0000041572	C60300	REMK			\$	IC00A
01573	0004440635	C60400	BUN	A	LZ	OH	IC00A
01574	0526400074	C60500	LDD			#74	IC00A
01575	0000044625	C60600	SUB			OD	IC00A
01576	0000041572	C60700	BUN			EA	IC00A
		C60800	BUN			(TEST	IC00A
01577	0000041577	C60900	REMK			\$	IC00A
01600	0004440635	C61000	BUN			OH	IC00A
01601	0526400034	C61100	LDD	A	LZ	#34	IC00A
01602	0000044625	C61200	SUB			OD	IC00A
01603	1000041577	C61300	BUN			(ZC)	IC00A
		C61400	BUN			COMMA	IC00A
		C61500	REMK			TEST	IC00A
01604	0000041604	C61600	BUN			RETURN ADDRESS	IC00A
01605	0404400033	C61700	LDD	A	L	\$	IC00A
01606	0126440635	C61800	LDD		Z	#33	IC00A
01607	0000044625	C61900	SUB			OH	IC00A
01610	1000041604	C61900	BUN			OD	IC00A
		F00100	BUN			FUNCTION, SUBROUTINE STATEMENT	IC00A
		F00200	REMK			FUNCTION, SUBROUTINE STATEMENT	IC00A
01611	0404400001	F00300	LDD	A	L	EV	IC00A
01612	0404041631	F00400	LDD	A	L	XP	IC00A
01613	0054440611	F00500	LDD	A	L	BT	IC00A
01614	0110042621	F00600	LDD	A	L	#15302	IC00A
01615	0404406527	F00700	LDD	B	L	X	IC00A
01616	0564415302	F00800	LDD	B	L	ASSIGN \$-ST	IC00A
01617	0456041501	F00900	STR		L	SAVE ASSIGNMENT	IC00A
01620	0434042617	F01000	STR		L	INPUT NON-CON	IC00A
01621	0456041150	F01100	STR		L	SAVE ASSIGNMENT	IC00A
01622	0434042714	F01200	LDD	B	L	LG	IC00A
01623	0564400014	F01300	LDD	A	L	#14	IC00A
01624	0456044420	F01400	SRB		L	SH	IC00A
01625	0004545344	F01500	LDD	A	L	AT,1	IC00A
01626	0564400016	F01600	LDD	B	L	#16	IC00A
01627	0456044420	F01600	SRB		L	SH	IC00A

) TEST INPUT CHARACTER
 RETURN
 RETURN ADDRESS
 RETURN ADDRESS
 ERROR IF TERM NOTE)
 RETURN
 TERM.CH
 TEST (
 ERR2
 COMMA TEST
 RETURN ADDRESS
 IS TERM #,
 \$ #33
 OH
 NO, GO TO ERR 11
 YES, RETURN
 FUNCTION, SUBROUTINE STATEMENT
 FUNCTION, SUBROUTINE STATEMENT
 SET FUN/SUARR INDICATOR
 EV
 XP
 BT
 #15302
 X
 ASSIGN \$-ST
 SAVE ASSIGNMENT
 INPUT NON-CON
 SAVE ASSIGNMENT
 LG
 #14
 SH
 AT,1
 #16
 SH

530	0456043022	F01700	SRB	A	L	BD	\$	GENERATE SUBPROGRAM ENTRY	IC00A
531	0404441631	F01800	L0D						IC00A
532	0013440635	F01900	MRG			OH			IC00A
533	0160040355	F02000	BZE			ZP		GOTO ST.INPUT IF SBR-CR	IC00A
534	0456043044	F02100	SRB			BC		ASSIGN DUMMYS	IC00A
535	0000040353	F02200	BUN			BO		CR TEST	IC00A
		F02300	REMK			REAL,		INTEGER, LOGICAL STATEMENT	IC00A
536	0406400004	F02400	ADD		L	#4		LOGICAL	IC00A
537	0406400004	F02500	ADD		L	#4		REAL	IC00A
540	0406400002	F02600	ADD		L	2		INTEGER	IC00A
541	0404041645	F02700	STR	A	L	\$+4		SET TAG	IC00A
542	0456041150	F02800	SRB			BT		NO, INPUT NON-CONST.	IC00A
543	0403400014	F02900	EXT		L	#14			IC00A
544	0076546503	F03000	S8H			00,1			IC00A
545	0404441645	F03100	L0D	A	L	\$		VP(TYPE)#TAG	IC00A
546	0406400002	F03200	ADD		L	2			IC00A
547	0043546503	F03300	MGM			00,1			IC00A
550	0004440635	F03400	L0D	A	LZ	OH		, OR CR TEST	IC00A
551	0526400633	F03500	SUB			#33		IS TERM#,	IC00A
552	0000040353	F03600	BUN			BO		NO, GO TO CR TEST	IC00A
553	0000040531	F03700	BUN			HY		YES, RETURN	IC00A
		F03800	REMK			DIMENSION STATEMENT			IC00A
554	0456041150	F03900	SRB			BT		INPUT NON-CON	IC00A
555	0040041155	F04000	BLB			WM		ERROR(D) IF FUN/ARR	IC00A
556	0456041577	F04100	SRB			ZC		DO (TEST	IC00A
557	0004045211	F04200	STR	A		TC		T#F1#F2#0	IC00A
560	0004045210	F04300	STR	A		TR			IC00A
561	0444400004	F04400	L0D		L	4		T#T+1	IC00A
562	0546400001	F04500	DIX		LZ	1		UNPUT INTEGER	IC00A
563	0456041166	F04600	SRB			BU		ERROR	IC00A
564	0160044625	F04700	BZE			OD		F(T)#N	IC00A
565	0004245212	F04800	STR	A		TA+3,2		IS TERM#,	IC00A
566	0404400033	F04900	L0D	A	L	#33		YES, SKIP	IC00A
567	1433440635	F05000	COM	NE	J	OH		NO, GO TO 2	IC00A
570	1045041662	F05100	RAW			ZU		F1#F0#F1	IC00A
571	0004445207	F05200	L0D	A		TA			IC00A
572	0337445210	F05300	MPY			TR			IC00A
573	0164045210	F05400	STR	R		TR			IC00A
574	0166000000	F05500	EAM	B				F2#F1*F2	IC00A
575	0337445211	F05600	MPY			TC			IC00A
576	0164045211	F05700	STR	B		TC			IC00A
577	0004645212	F05800	L0D	A		TA+3,2			IC00A

Line	Address	Code	Label	REMARK	EQUIVALENCE STATEMENT	IC000A
01	0456040616	F10100	ZB			IC000A
02	0456041577	F10200	ZB			IC000A
03	0444400000	F10300	SRB			IC000A
04	0456041150	F10400	LDD	12 L	XN TO INPUT CHAR	IC000A
05	0503410000	F10500	SRB		ZC TO (TEST	IC000A
06	00000044625	F10600	EXT		BT #10000	IC000A
07	04044000002	F10700	BUN		QD ERROR VA#DUM/STR	IC000A
08	0043546503	F10800	LDD	A L	2	IC000A
09	1574400002	F10900	MGM		00,1 VA#VAR	IC000A
10	0404400034	F11000	LDD	UB	2	IC000A
11	0433440635	F11100	LDD	A L	#34	IC000A
12	1166041772	F11200	COM	EQ	QH TERM CHAR#(IC000A
13	0456041166	F11300	EAM	B J	\$+6 #1	IC000A
14	0160044625	F11400	SRB		BU TO INPUT INTEGER	IC000A
15	0456041566	F11500	BZE		QD ERROR N#0	IC000A
16	0456041566	F11600	SRB		BW TO) OPERATOR TEST	IC000A
17	0004445217	F11700	LDD	A	TI (A)#N	IC000A
18	0415400017	F11800	ALD		15	IC000A
19	1574437776	F11900	LDD	UB	#37776	IC000A
20	0226546503	F12000	SUB	M	00,1 (A)#N-MA	IC000A
21	0004045207	F12100	STR	A	TA	IC000A
22	0436437400	F12200	DIX	11 L	#37400	IC000A
23	0434042001	F12300	STR	11 L	ZH	IC000A
24	0564400377	F12400	LDD	B L	#377	IC000A
25	0100042027	F12500	LDD	I2 L	ZL	IC000A
26	0444442001	F12600	LDD	I2 L	\$ (AS)	IC000A
27	1044042062	F12700	STR	I2	\$(+1	IC000A
28	0050042004	F12800	BOF		TA	IC000A
29	0004445207	F12900	LDD	A	00+256,1	IC000A
30	0066547103	F13000	ADM		ZI	IC000A
31	0050042034	F13100	BOF		0K+256,1	IC000A
32	0204550214	F13200	LDD	A	ZH	IC000A
33	0633442001	F13300	COM	EQ M	ZL+1	IC000A
34	1435042030	F13400	RWA	I1 J	(AS)	IC000A
35	1026442062	F13500	SUB		ZG	IC000A
36	0160042020	F13600	BZE		0K+256,1	IC000A
37	0204550214	F13700	LDD	A	0K+256,2	IC000A
38	0226650214	F13800	SUB	M	0K+256,1	IC000A
39	0076550214	F13900	SBM		0K+256,2	IC000A
40	0066650214	F14000	ADM		#33	IC000A
41	0404400033	F14100	LDD	A L	QH	IC000A
42	1433440635	F14200	COM	NE		IC000A

12	0000041754	F14300	BUN	A	L	ZD		IC00A
13	0404400001	F14400	LDD			1		IC00A
14	0076442062	F14500	SBM			AS		IC00A
15	0456041566	F14600	SRB			BW		IC00A
16	0000041650	F14700	BUN			BV		IC00A
17	0035000000	F14800	RAM	11				IC00A
18	1126442062	F14900	SUB		Z	(AS)		IC00A
19	0000042003	F15000	BUN			ZH+2		IC00A
20	0004445207	F15100	LDD	A		TA		IC00A
21	0160042020	F15200	BZE			ZG		IC00A
22	0404400035	F15300	LDD	A	L	#35		IC00A
23	0000044626	F15400	BUN			OD+1		IC00A
24	0004447614	F15500	KEMK			EXTERNAL STATEMENT		IC00A
25	0030042621	F15600	LDD	A		XZ		IC00A
26	0404445046	F15700	BNG			BI	ERROR(G) IF SPEC-	IC00A
27	0404040531	F15800	LDD	A	L	MI+10		IC00A
28	0404400001	F15900	STR	A	L	HY		IC00A
29	0076440624	F16000	LDD	A	L	1	CARD COLUMN#2	IC00A
30	0456041150	F16100	SRB			WB		IC00A
31	0564400002	F16200	SRB			BT	INPUT NON-CON	IC00A
32	0020041155	F16300	LDD	B	L	2	V ASSIGNED PRIOR	IC00A
33	0413400001	F16400	BNM			WM	YES, ERROR(D)	IC00A
34	0033445124	F16500	MKG		L	1	V#FUN	IC00A
35	0013445127	F16600	COM	GR		KC	SKIP IF DUMMY	IC00A
36	0000041647	F16700	MKG			KF	V#STR	IC00A
37	1574416400	F16800	BUN			BV-1		IC00A
38	0164042227	F16900	REMK			ASSIGN SPECIFICATIONS		IC00A
39	1574420002	F17000	LDD	UB		#16400	LC LCO	IC00A
40	0164041560	F17100	STR	B		LE		IC00A
41	1574437777	F17200	LDD	UB		#20002		IC00A
42	0454446333	F17300	STR	B		BE	LD	IC00A
43	0454042137	F17400	LDD	UB		#37777	SW*-	IC00A
44	0456446333	F17500	STR	B	U	XZ		IC00A
45	0556437777	F17600	LDD	UB	L	#37776	(LOCATION E INDEX)	IC00A
46	0000042137	F17700	LDD	UB	L	AZ	SET L(EE)	IC00A
47	0444437777	F17800	STR	13	L	AE		IC00A
48	0444437777	F17900	DIX	13	L	AZ+1		IC00A
49	0000042137	F18000	DIX	13	LZ	#37777		IC00A
50	0444437777	F18100	BUN			AE	TO ASSIGN EQUIVES	IC00A
51	0454450213	F18200	LDD	12	L	#37777	T1#-1	IC00A
52	0454042213	F18300	LDD	13	L	AY	(LOCATION C INDEX)	IC00A
53		F18400	STR	13	L	AC	SET L(ICC)	IC00A

072	0456450214	F18500	DIX	I3	L	AY+1		IC00A
073	0556437777	F18600	DIX	I3	LZ	#37777		IC00A
074	0000042213	F18700	BUN			AC	TO ASSIGN COMMON	IC00A
075	0444400000	F18800	L0D	I2	L	0		IC00A
076	0046441505	F18900	DIX	I2		XW	A#ABAR+1	IC00A
077	0004441560	F19000	L0D	A		BE		IC00A
100	0445400002	F19100	ARO			2		IC00A
101	0006446503	F19200	ADD			00		IC00A
102	0004041560	F19300	STR	A		BE	LD#LD-1+VAR FOR VP	IC00A
103	0004646503	F19400	L0D	A		00,2		IC00A
104	0423400003	F19500	XOR		L	3		IC00A
105	0503410003	F19600	EXT		LZ	#10003	VA#NON-DUM/ARR TEST	IC00A
106	0000042125	F19700	BUN			IF		IC00A
107	0004647614	F19800	L0D	A		OK,2		IC00A
110	0030042134	F19900	BNG			IF+7		IC00A
111	0164441560	F20000	L0D	B		BE	(B)#LD	IC00A
112	0445400002	F20100	ARO			2		IC00A
113	0003445130	F20200	EXT			KG		IC00A
114	0066441560	F20300	ADM			BE	LD#LD+PA	IC00A
115	0404417777	F20400	L0D	A	L	#17777		IC00A
116	0053646503	F20500	EXM			00,2		IC00A
117	0004647614	F20600	L0D	A		OK,2		IC00A
120	0405400007	F20700	ALA			7		IC00A
121	0003445140	F20800	EXT			KO	7760000	IC00A
122	1406420000	F20900	ADD		U	#20000		IC00A
123	0066446503	F21000	ADM			00,2		IC00A
124	0456044342	F21100	SRB			AX	TO STRING (B)TO(A)	IC00A
125	0546437777	F21200	DIX	I2	LZ	#37777	A#A+1	IC00A
126	0000042103	F21300	BUN			AP		IC00A
127	0044050155	F21400	STR	I2		CH		IC00A
130	0004440635	F21500	L0D	A		CH		IC00A
131	0160040531	F21600	BZE			HY		IC00A
132	0456040642	F21700	SKB			IC	CC#7	IC00A
133	0000040442	F21800	BUN			MD+2	TO ST. INPUT	IC00A
134	0004646503	F21900	L0D	A		00,2		IC00A
135	0426420000	F22000	SUB		L	#20000		IC00A
136	1166042115	F22100	EAW	B	J	AP+10		IC00A
137	0034746332	F22200	L0D	I1		AZ,3	A#EP	IC00A
140	0004550214	F22300	L0D	A		OK+256,1		IC00A
141	0030042065	F22400	BNG			AS+3	JUMP IF PA#-	IC00A
142	0444400000	F22500	L0D	I2	L	0	T1#0	IC00A
143	0044045207	F22600	STR	I2		TA	T2#0	IC00A

16	0030042073	F26800
17	0076442227	F26900
20	1025042176	F27000
21	0026445211	F27100
22	0403400377	F27200
23	0000042223	F27300
24	0004550214	F27400
25	0403400377	F27500
26	1435042221	F27600
27	0000000000	F27700
30	0044440624	H00100
31	0456041141	H00200
32	0564400002	H00300
33	0020041155	H00400
34	0040042237	H00500
35	0004445127	H00600
36	0043546503	H00700
37	0004440635	H00800
10	0160042243	H00900
11	0444040624	H01000
12	0120040352	H01100
13	0456044134	H01200
14	0000040355	H01300
15	0004440635	H01400
16	0160042621	H01500
17	0456040642	H01600
18	0456041202	H01700
19	0166000000	H01800
20	0526407166	H01900
21	0000042621	H02000
22	0456041577	H02100
23	0456043057	H02200
24	0456041135	H02300
25	1404400600	H02400
26	0456044223	H02500
27	0456041604	H02600
28	0456041135	H02700
29	1404403400	H02800
30	0456044223	H02900
31	0456041604	H03000
32	0456044223	H03100
33	0456041604	H03200

LE	BNG	AO+3	LC#LC-PA	IC00A
AM	SRM	LE	(A)#LC	IC00A
AM	RAW	AO+2		IC00A
AM	SUB	TC		IC00A
AM	EXT	#377		IC00A
AM	BUN	\$		IC00A
AM	L0D	OK+256,1		IC00A
AM	EXT	#377		IC00A
AM	RMA	AM-2		IC00A
AM	OC TL	0		IC00A
AM	REMK	CALL PROCESSOR		IC00A
AM	L0D	NR		IC00A
AM	SRB	HC		IC00A
AM	L0D	2		IC00A
AM	BNM	WM		IC00A
AM	BLB	\$+3		IC00A
AM	L0D	KF		IC00A
AM	MGM	00,1		IC00A
AM	L0D	QH		IC00A
AM	BZE	\$+3		IC00A
AM	STR	MB		IC00A
AM	BNZ	UZ		IC00A
AM	SRB	HA		IC00A
AM	BUN	ZP		IC00A
AM	REMK	IF (EXP) SUBROUTINE		IC00A
AM	L0D	QH		IC00A
AM	BZE	BI		IC00A
AM	SRB	IC		IC00A
AM	SRB	ZO		IC00A
AM	EAM			IC00A
AM	SUB	#7166		IC00A
AM	BUN	BI	ERROR(F) IF NOT IF	IC00A
AM	SRB	ZC	(TEST	IC00A
AM	SRB	WZ	EXPRESSION F2	IC00A
AM	SRB	OZ	ST# INPUT	IC00A
AM	L0D	#600	OUTPUTND BNG A	IC00A
AM	SRB	QY		IC00A
AM	SRB	MY	,TEST	IC00A
AM	SRB	OZ	ST# INPUT	IC00A
AM	L0D	#3400	OUTPUT BZE A	IC00A
AM	SRB	QY		IC00A
AM	SRB	MY	,TEST	IC00A

card column #7
INPUT N

0456041135	H03300	SRB	OZ	ST# INPUT	IC00A
0456044223	H03400	SRB	OY	OUTPUT IND	IC00A
0000040353	H03500	BUN	BO	C.R. TEST	IC00A
0456043057	H03600	REMK	IF (SENSE... STATEMENT	EXPRESSION F2	IC00A
0456044252	H03700	SRB	WZ	SET MODE INTEGER	IC00A
0456044116	H03800	SRB	CE	OUTPUT SRB ROUTINE	IC00A
0456041135	H04000	SRB	MB	ST# INPUT	IC00A
1404402400	H04100	L0D	OZ		IC00A
0000042264	H04200	BUN	#2400	OUTPUT BNZ A	IC00A
0456040611	H04300	KEMK	MU	GO TO STATEMENT	IC00A
0160042303	H04400	SRB	XP	INPUT DIGIT	IC00A
0456040636	H04500	BZE	\$+3	SKIP IF NON DIGIT	IC00A
0000042266	H04600	SRB	Z0	UNINPUT 1	IC00A
0456040636	H04700	BUN	ZT-1	OUTPUT BUN ST#	IC00A
0456040636	H04800	SRB	Z0	UNINPUT 1	IC00A
0456041157	H04900	SRB	ZN	INPUT V	IC00A
0456041157	H05000	BZE	ZX	JUMP IF NO OPERAND	IC00A
0160042313	H05100	BLB	WM	ERROR(D) IF FUN/ARR	IC00A
0040041155	H05200	BNG	WM	ERROR(D) IF CON	IC00A
0030041155	H05300	RAM	OY	OUTPUT INDEX	IC00A
0035000000	H05400	BUN	ZP	GO TO ST. INPUT	IC00A
0456044223	H05500	SRB	ZC	DO (TEST	IC00A
0000040355	H05600	SRB	4	EXPRESSION	IC00A
0456041577	H05700	L0D	EB	I#1+1	IC00A
0404400004	H05800	SRB	OZ	ST# INPUT	IC00A
0456043075	H05900	DIX	#37776	O((12)#0 A((12)#11	IC00A
0446437776	H06000	SRB	CA,2	TERM CH	IC00A
0456041135	H06100	STR	OH	, TEST	IC00A
0456041135	H06200	L0D	#33	RESCAN IF	IC00A
0004250154	H06300	XOR	BS	OPERATOR TEST	IC00A
0423400033	H06400	BZE	BW	, TEST	IC00A
0160042316	H06500	SRB	MY		IC00A
0456041566	H06600	SRB	CB,2		IC00A
0456041604	H06700	STR	CF	2*P	IC00A
0004250155	H06800	STR	CC	EXPRESSION0	IC00A
0444042342	H06900	SRB	CD	SCAN	IC00A
0456043103	H07000	SRB	EE		IC00A
0456043331	H07100	L0D	4		IC00A
0054443307	H07200	DIX	MO		IC00A
0556400004	H07300	BUN	CE	SET MODE INTEGER	IC00A
0000043221	H07400	SRB			IC00A
0456044252					

0456041166
0446010000
0564402000
0004045217
0004440635
0475400022
0016000000
1574401760
0663442603
0000042561
0464042506
0564415301
0445400022
0456041501
0004445217
0160042501
0054442506
0556442603
0426400001
0564400000
0515400015
0434046340
0456044232
0004445217
1000042506
0160044625
0435000000
0564400001
0436400001
0456040623
0415400025
0505400007
0120042521
0070042512
0000042515
0455400015
0475400017
0444046340
0456044354
0070042511
0000042446
0404400006

H15900
H16000
H16100
H16200
H16300
H16400
H16500
H16600
H16700
H16800
H16900
H17000
H17100
H17200
H17300
H17400
H17500
H17600
H17700
H17800
H17900
H18000
H18100
H18200
H18300
H18400
H18500
H18600
H18700
H18800
H18900
H19000
H19100
H19200
H19300
H19400
H19500
H19600
H19700
H19800
H19900
H20000
XH

SRB CMP B L
LDD STR A A
LDD BLO A A
EAM XH
LDD UB
SCN EQ M
BUN
STR X L
LDD B L
ARO
SRB
LDD A
BZE
LDD 13
DIX 13 LZ
SUR 1 L
LDD B L
BRL
STR 11 L
SRB
LDD A
BUN
BZE
RWA 11
LDD H L
DIX 11 L
SRB
ALO
BLC
BNZ
BNX 11
BUN
BLA
BLO
STR 12 L
SRB
BNX 11
BUN
LDD A L

BU INPUT INTEGER
#2000
TI
OH
18
#1760
NG
IK+5
NI
#15301
18
XS
TI
\$+4
NI
NG
1
0
13
PV
FK
TI
(\$)
OD
1
1
1
XM
21
7
\$+3
NN
\$-3
13
15
PV
GP
NO+2
NK
6

ERR IF N#0
INT#INT-1
INPUT COLUMN
I#I-1, JUMP IF I#0
JUMP IF N NOT 0
SCALE
PACK WORD
OUTPUTABS

ENGINEERING PRINTING CO. SPACE BAR ENGINEERED FOR HIGH SPEED PRINTING

2607

3

4

5

6

7

2610

1

2

3

4

5

6

7

2606

1

2

3

4

5

6

7

2630

1

2

3

4

5

6

7

2640

1

2

3

4

5

6

7

2650

1

2

3

BUN

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

OC TL

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

NK

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

IC00A

1	0004546503	H28500	LD	A	00,1	IC00A
2	0503407700	H28600	EXT	LZ	#7700	IC00A
3	0503407400	H28700	EXT	LZ	#7400	IC00A
4	0000042662	H28800	BUN		\$+6	IC00A
5	0004546503	H28900	LD	A	00,1	IC00A
6	0456044331	H29000	SRB		YY	IC00A
7	0434046340	H29100	STR	11 L	PV	IC00A
8	0004545344	H29200	LD	A	AT,1	IC00A
9	0456044354	H29300	SRB		GP	IC00A
10	0536437777	H29400	DIX	11 LZ	#37777	IC00A
11	0000042651	H29500	BUN		LC+1	IC00A
12	0036441505	H29600	DIX	11	XH	IC00A
13	0004546503	H29700	LD	A	00,1	IC00A
14	0130042677	H29800	BPO		\$+9	IC00A
15	0564410001	H29900	LD	B L	#10001	IC00A
16	0633442667	H30000	COM	EQ M	\$-1	IC00A
17	0000042677	H30100	BUN		\$+6	IC00A
18	0564400030	H30200	LD	B L	#30	IC00A
19	0456044420	H30300	SRB	A	SH	IC00A
20	0004545344	H30400	LD	B L	AT,1	IC00A
21	0564400032	H30500	LD		#32	IC00A
22	0456044420	H30600	SRB		SH	IC00A
23	0536437777	H30700	DIX	11 LZ	#37777	IC00A
24	0000042665	H30800	BUN		LD+1	IC00A
25	0004441560	H30900	LD	A	BE	IC00A
26	1403407777	H31000	EXT	U	#7777	IC00A
27	0066444476	H31100	ADM		AU	IC00A
28	0564400010	H31200	LD	B L	#10	IC00A
29	0456044420	H31300	SRB		SH	IC00A
30	0456045162	H31400	SRB		AA	IC00A
31	0004445143	H31500	LD	A	KT	IC00A
32	0456044706	H31600	SRB		OA	IC00A
33	0000040321	H31700	BUN		LZ	IC00A
34	0004546503	H31800	LD	A	00,1	IC00A
35	0456044331	H31900	SRB		YY	IC00A
36	0434442714	H32000	LD	11 L	\$	IC00A
37	0004546503	H32100	LD	A	00,1	IC00A
38	0564410001	H32200	LD	B L	#10001	IC00A
39	0020042726	H32300	BNM		\$+7	IC00A
40	0564400002	H32400	LD	B L	2	IC00A
41	0010042725	H32500	BZM		\$+4	IC00A
42	1574400110	H32600	LD	UB	#110	IC00A

Line	Account	Code	SRB	FK	SKIP IF NAME USED	IC00A
23	0456044232		H32700			IC00A
24	00000042731		H32800			IC00A
25	0034441631		H32900			IC00A
26	0404400041		L0D A L	EV #41		IC00A
27	0536400000		DIX 11 LZ	0		IC00A
30	0456044660		SRB	LJ #20000	ERROR(L)	IC00A
31	0404420000		L0D A L			IC00A
32	0456044331		H33400	YY		IC00A
33	0004443036		H33500	IV		IC00A
34	0456044354		H33600	OP		IC00A
35	1404400001		H33700	1		IC00A
36	0456044354		L0D A U	OP		IC00A
37	1435042631		SRB	LB		IC00A
40	0564400000		H34100	0	BATCH PROCESSOR	IC00A
41	0456044420		H34200	SH		IC00A
42	0164442751		L0D B	\$+7		IC00A
43	0164044441		STR B	SF		IC00A
44	0564400063		L0D B L	#63		IC00A
45	0164045222		STR B	VA		IC00A
46	0564440406		L0D B L	IA+1		IC00A
47	0164040305		STR B	IJ+1		IC00A
50	0000400000		OEX 1	0,0		IC00A
51	0564044501		STR B L	SD-1		IC00A
52	0434042777		REMK	ARTHMETIC ST. FUNCTION		IC00A
53	0004443641		STR 11 L	BF	T#A	IC00A
54	0404043621		L0D A L	FH	KBAR#KBARBAR	IC00A
55	0004444476		STR A	FG		IC00A
56	0406420000		L0D A	AU	(A)#LP	IC00A
57	0066546503		ADD	#20000		IC00A
60	0454400013		ADM	00,1	AFA#LP+1	IC00A
61	0454041502		L0D 13 L	11		IC00A
62	0556400001		STR 13 L	XV	SET A-ZERO#11	IC00A
63	0004345344		DIX A	1		IC00A
64	0110042762		STR 13 LZ	AT,3	CLEAR DUMMY REGION	IC00A
65	0044441505		BNX 13	\$-2		IC00A
66	0456400013		L0D 12	XW	SAVE A-BAR	IC00A
67	0454041505		DIX 13 L	11		IC00A
67	0454041505		STR 13 L	XW	SET A-BAR#-11	IC00A
70	0456043044		SRB	BC	TO ASSIGN DUMMYS	IC00A
71	0444041505		STR 12 L	XW	RESET A-BAR	IC00A
72	0526400013		SUB LZ	#13		IC00A

13	0000044625	101900	BUN	GD	ERROR IF NOT #	IC00A
14	0456044325	102000	SRB	HR	TO OUTPUT BUN 17776	IC00A
15	0456043022	102100	SRB	BD	TO OUTPUT SUBPROGRAM	IC00A
16	0456043063	102200	SRB	BG	TO EXPRESSION F1	IC00A
17	0434442777	102300	LDD	\$	A#T	IC00A
18	0004546503	102400	LDD	00,1		IC00A
19	0406420000	102500	ADD	#20000	TO STRING LP/AFA+1	IC00A
20	0456044331	102600	SRB	YY	(A)# LOD1 L 0	IC00A
21	0004443036	102700	LDD	IV	SET A-ZERO#0	IC00A
22	0404041502	102800	STR	XV	TO OUTPUT (A)	IC00A
23	0456044354	102900	SRB	OP		IC00A
24	0004546503	103000	LDD	00,1	(A)#BUN AFA	IC00A
25	0445400115	103100	ARO	13	TO OUTPUT (A)	IC00A
26	0456044354	103200	SRB	OP		IC00A
27	0445400115	103300	LDD	00,1	TO STRING LP/AFA	IC00A
28	0426420000	103400	SUB	YY		IC00A
29	0456044331	103500	SRB	#20000		IC00A
30	0564400003	103600	LDD	3		IC00A
31	0254546503	103700	LDD	00,1	ERROR(D) IF ASF CALLED	IC00A
32	0110041155	103800	BNX	WM		IC00A
33	0404400001	103900	LDD	1		IC00A
34	0043546503	104000	MGM	00,1	SET VPA#FUN	IC00A
35	0000040353	104100	BUN	BQ	TO CR TEST	IC00A
36	0000043022	104200	REMK	SUBPRO	GRAM ENTRY SUBROUTINE	IC00A
37	0004444476	104300	BUN	\$	RETURN ADDRESS	IC00A
38	0435400015	104400	LDD	AU		IC00A
39	0404043037	104500	ARA	13		IC00A
40	0444400004	104600	STR	BH		IC00A
41	0004643040	104700	LDD	4		IC00A
42	0456044354	104800	LDD	BH+1,2		IC00A
43	0546400001	104900	SRB	OP		IC00A
44	0000043027	105000	DIX	1		IC00A
45	1000043022	105100	BUN	\$-3		IC00A
46	0000077776	105200	BUN	(BD)	RETURN	IC00A
47	0434077776	105300	OCTL	77776		IC00A
48	0434400000	105400	OCTL	434077776		IC00A
49	0036440000	105500	LDD	0		IC00A
50	0036440000	105600	OCTL	36440000		IC00A
51	0404400033	105700	REMK	ASSIGN DUMMY SUBROUTINE		IC00A
52	1433440635	105800	LDD	#33	IS TERM#,	IC00A
53	0000043047	105900	COM	QH		IC00A
54		106000	BUN	IL	YES, GO TO 1	IC00A

05264000774	J07300	EO
0000043204	J07400	ES
0110043177	J07500	BNX 13
0110043747	J07600	BNX 13
0004443307	J07700	LOD A
0040043171	J07800	BLB
1000043103	J07900	BUN
0456043331	J08000	SRB
0004650154	J08100	LOD A
1160043103	J08200	BZE
0456044157	J08300	SRB
0446400002	J08400	DIX 12 L
0000043172	J08500	BUN
0456400010	J08600	DIX 13 L
0454043134	J08700	SRB
0456040616	J08800	LOD
0054443134	J08900	BUN
0000043125	J09000	ADD
0506400061	J09100	BUN
0000043223	J09200	LOD A
0404400002	J09300	LOD L
0066443307	J09400	ADM
1574437770	J09500	LOD UB
0204650156	J09600	LOD A M
1433445122	J09700	COM NE
1166043300	J09800	EAM B J
0164445122	J09900	LOD B
0030043302	J10000	BNG
0110043221	J10100	BNX 13
0456043320	J10200	SRB
0030043104	J10300	BNG
0404400030	J10400	LOD A L
0000044626	J10500	BUN
0456041604	J10600	SRB
1404403600	J10700	LOD A U
0110043134	J10800	BNX 13
0054250155	J10900	STR 13
1055043103	J11000	RAW 13 J
0004440635	J11100	LOD A
0526400034	J11200	SUB
0000043236	J11300	BUN
0456437770	J11400	DIX 13 L

			LZ	#74	JUMP IF NOT)
				EG	JUMP IF B NOT 0
				ES	ERROR(B) IF B NOT 0
				MN	
				EE	
				\$+2	
				(CC)	RETURN IF F1 EVEN
				CD	SCAN
				CA,2	
				(CC)	RETURN IF E(1)#0
				HD	OUTPUT STRA (A)
				2	
				E0	GO TO 11
				8	
				BY	B#8-8
				XN	INPUT CHAR
				BY	
				EF	GO TO 5
				#61	
				EJ	JUMP IF NOT #S = 2
				2	
				EE	F1#F1+2048
				#37770	
				CA+2,2	F1 = F1 + R
				KA	JUMP IF 0(I-1) = STRA
				HZ	
				HZ+2	ERROR(C) IF B NOT 0
				MO	SUB SCAN
				FA	GO TO 1 IF E(1) NEG
				EM	ERROR(C)
				#30	
				IT	COMMA TEST
				MY	(A)#NDP
				#3600	JUMP IF B NOT 0
				BY	
				CB,2	(A)#0 AND RETURN
				CC	
				GH	
				#34	JUMP IF TERM NOT (
				EP	
				#37770	

PAGE 038

7	0404043613	J24100	STR	A	L	FF	K#0		IC00A
30	0404400001	J24200	LDD	A	L	1			IC00A
31	0404350153	J24300	STR	A	L	CB-2,3	1(P+1)#1		IC00A
32	0444443432	J24400	LDD	12	L	\$	I#P		IC00A
33	0456400002	J24500	DIX	13	L	2			IC00A
34	0454043432	J24600	STR	13	L	GB	P#P-1		IC00A
35	0004650155	J24700	LDD	A		CB,2			IC00A
36	0040043444	J24800	BLB			FM	JUMP IF I(I) ODD		IC00A
37	0004650154	J24900	LDD	A		CA,2			IC00A
40	0403407777	J25000	EXT		L	#7777			IC00A
41	0160043471	J25100	BZE			AG+2			IC00A
42	0456043567	J25200	SRB			FR	STORE		IC00A
43	0000043341	J25300	BUN			IY	GO TO 1		IC00A
44	0433650157	J25400	COM	EQ		CB+2,2			IC00A
45	0000043450	J25500	BUN			\$+3	JUMP IF I(I)NEQI(P)		IC00A
46	0020043554	J25600	RNM			GF	JUMP IF O(I)#+-		IC00A
47	0004650156	J25700	LDD	A		CA+2,2	TO 12 IF O(P)#FDV		IC00A
50	1574417770	J25800	LDD	UB		#17770			IC00A
51	0633443154	J25900	COM	EQ	M	FV			IC00A
52	0033650157	J26000	COM	GR		CB+2,2	TO 12 IF I(I)LTHI(P)		IC00A
53	0060043437	J26100	BUN			FX			IC00A
54	0004650154	J26200	LDD	A	NE	CA,2			IC00A
55	1633443154	J26300	COM		M	FV			IC00A
56	0000043437	J26400	BUN			FX	GO TO 12 IF O(I)#FDV		IC00A
57	0004037777	J26500	STR	A	B				IC00A
60	0455000000	J26600	RWA	13					IC00A
61	0556400000	J26700	DIX	13	LZ	0	SKIP IF A(I)#0		IC00A
62	0456044206	J26800	SRB			GO			IC00A
63	1574407770	J26900	LDD	UB		#7770			IC00A
64	0204443152	J27000	LDD	A	M	FZ			IC00A
65	0633650154	J27100	COM	EQ	M	CA,2			IC00A
66	0000043505	J27200	BUN			FT	TO 5 IF O(I) NOT FSU		IC00A
67	0054650157	J27300	LDD	13		CB+2,2			IC00A
70	0110043474	J27400	BNX	13		\$+4			IC00A
71	0004442154	J27500	LDD	A		GK			IC00A
72	0456044354	J27600	SRB			OP			IC00A
73	0000043505	J27700	BUN			FT			IC00A
74	0056650155	J27800	DIX	13		CB,2			IC00A
75	0556437770	J27900	DIX	13	LZ	#37770			IC00A
76	0000043562	J28000	BUN			AF			IC00A
77	0326650156	J28100	SUB		Z4	CA+2,2			IC00A
500	0023445145	J28200	XOR			KX			IC00A

0	0456044206	K15500	SRB	A	GO	OUTPUT FSU (A)	IC00A
1	0004444476	K15600	LOD		AU		IC00A
2	0445400015	K15700	ARO		13		IC00A
3	0406400003	K15800	ADD	L	3		IC00A
4	0054444105	K15900	LOD	13 LZ	HH		IC00A
5	0556442422	K16000	DIX	13 LZ	HG		IC00A
6	0004443722	K16100	LOD	A	AW		IC00A
7	1404403401	K16200	LOD	A	#3401	OUTPUTABS BZE LP+3	IC00A
0	0456044354	K16300	SRB	U	OP		IC00A
1	0054443776	K16400	LOD	13	HJ	I#F4	IC00A
2	0004750152	K16500	LOD	A	CA-2,3	(A)#E(F4+1)	IC00A
3	1574400470	K16600	LOD	UB	#470	(B)#XOR	IC00A
4	0456044220	K16700	SRB		GS	*OUTPUT (B) (A)	IC00A
5	0000044105	K16800	BUN		\$	RETURN	IC00A
6	0444043777	K16900	STR	12 L	HI	F3#1	IC00A
7	0456043103	K17000	SRB		CC	EXPRESSION1	IC00A
10	0444043776	K17100	STR	12 L	HJ	F4#1	IC00A
11	0004440635	K17200	LOD	A	QH		IC00A
12	0526400033	K17300	SUB	LZ	#33	JUMP IF TERM NOT ,	IC00A
13	0000043770	K17400	BUN		HK	EXPRESSION1	IC00A
14	0456043103	K17500	SRB		CC		IC00A
15	0000043775	K17600	BUN		HL	JUMP	IC00A
16	0000044116	L00100	REMK		OUTPUT	SRB NAME	IC00A
17	1004440531	L00200	BUN		\$	RETURN ADDRESS	IC00A
18	0445400017	L00300	LOD	A	(HY)	ROUTINE#NAME	IC00A
19	0456044123	L00400	ARO		15	OUTPUT SRB ROUTINE	IC00A
20	0000044116	L00500	SRB		MA	RETURN	IC00A
21	0000044116	L00600	BUN		MB	OUTPUT SRB ROUTINE	IC00A
22	0000044116	L00700	REMK		OUTPUT		IC00A
23	0000044123	L00800	BUN		\$		IC00A
24	0564415301	L00900	LOD	B	#15301	ASSIGN	IC00A
25	0456041501	L01000	SRB		XS		IC00A
26	0564400000	L01100	LOD	B	0		IC00A
27	0004545344	L01200	LOD	A	AT,1		IC00A
28	0526402223	L01300	SUB	LZ	#2223		IC00A
29	1574411340	L01400	LOD	UB	#11340	O#SRB	IC00A
30	0456044232	L01500	SRB		FK	MERGE OA	IC00A
31	0456044232	L01600	BUN		MA	RETURN	IC00A
32	0000044123	L01700	REMK		OUTPUT	SRB AFA	IC00A
33	0000044123	L01800	BUN		\$	RETURN ADDRESS	IC00A
34	0000044134	L01900	LOD	A	00,1		IC00A
35	0004546503	L02000	STR	A	F1	(A)#VP	IC00A
36	0404044274						

04137 1574416640
 04140 0445400001
 04141 0040044143
 04142 1574411340
 04143 0456044232
 04144 1000044134
 04145 0004045221
 04146 0004546503
 04147 0564400014
 04150 0633444274
 04151 0000044161
 04152 1574400100
 04153 0004546503
 04154 0404044274
 04155 0004445221
 04156 0456044220
 04157 0000044157
 04160 1435044145
 04161 0456044264
 04162 0004437777
 04163 1426406000
 04164 0130044152
 04165 0435400001
 04166 1406412640
 04167 1166044153

L02100
 L02200
 L02300
 L02400
 L02500
 L02600
 L02700
 L02800 HE
 L02900
 L03000
 L03100
 L03200
 L03300
 L03400
 L03500
 L03600
 L03700
 L03800 HD
 L03900
 L04000
 L04100
 L04200
 L04300
 L04400
 L04500
 L04600
 L04700
 L04800 GM
 L04900
 L05000
 L05100
 L05200 GX
 L05300
 L05400 GV
 L05500
 L05600
 L05700
 L05800
 L05900 GR
 L06000
 L06100
 L06200

LOD UB
 ARO BLB
 LOD UB
 SRB
 BUN
 REMK
 STR
 LOD A
 LOD B
 COM EQ
 BUN UB
 LOD A
 LOD A
 STR A
 SRB
 BUN 11
 RWA 11
 SRB
 LOD A
 SUB U
 BPO
 ARA
 ADD
 EAW B
 REMK
 BNX 13
 DIX 13
 LOD UB
 LOD A
 LOD A
 STR A
 SRB
 BUN 13
 LOD 13
 LOD UB
 RWA 11
 REMK A
 STR A
 SRB A
 LOD A
 SRB A

#16640
 1
 \$+2
 #11340
 FK
 (HA)
 OUTPUT
 TK
 GO,1
 #14
 F1
 HD+2
 GO,1
 #100
 GO,1
 F1
 TK
 GS
 \$
 HE
 FM
 SET MODE
 (A)#T
 *OUTPUT(B) (A)
 RETURN
 11#A
 JUMP IF MODE MATCH
 STRA (A)
 T#(A)
 TEST MODES - 0#0
 (A)A
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)
 (A)

04325	0000044325	L14700	REMK	OUTPUT BUN \$	1C90A
04326	0004445206	L14800	BUN	\$	1C90A
04327	0456044354	L14900	LDD	OS (A)#RUN 77776	1C90A
04330	0000044325	L15000	SRB	OP OUTPUT ABSOLUTE	1C90A
		L15100	BUN	HR RETURN	1C90A
		L15200	REMK	OUTPUTSTR LP	1C90A
04331	0000044331	L15300	BUN	\$	1C90A
04332	0164444476	L15400	LDD	AU	1C90A
04333	0456044342	L15500	SRB	AX	1C90A
04334	0000044331	L15600	BUN	YY	1C90A
		L15700	REMK		1C90A
		L15800	ARA	OUTPUTSTR (B) TO (A)	1C90A
04335	0435400015	L15900	EXT	13	1C90A
04336	1403400027	L16000	MARG	#27	1C90A
04337	1413400020	L16100	BLC	#20	1C90A
04340	0505400016	L16200	SRB	14	1C90A
04341	0456044420	L16300	BUN	SH	1C90A
04342	0000044342	L16400	ALO	\$	1C90A
04343	0415400001	L16500	EAM	1	1C90A
04344	1166044335	L16600	REMK	11	1C90A
		L16700	LDD	OUTPUT ABSOLUTE	1C90A
04345	1574400001	L16800	BNM	1	1C90A
04346	0020044363	L16900	LDD	IN	1C90A
04347	0564400024	L17000	SRB	#24	1C90A
04350	0456044420	L17100	LDD	SH	1C90A
04351	0404420000	L17200	ADM	#20000	1C90A
04352	0066444476	L17300	LDD	AU	1C90A
04353	0404400000	L17400	BUN	0	1C90A
04354	0000044354	L17500	LDD	\$	1C90A
04355	0164445206	L17600	COM	OS	1C90A
04356	0633445206	L17700	BUN	OS	1C90A
04357	0000044345	L17800	LDD	OP-7	1C90A
04360	0164444476	L17900	ARA	AU	1C90A
04361	0435400016	L18000	BLA	14	1C90A
04362	0455400016	L18100	LDD	14	1C90A
04363	0564400026	L18200	BUN	#26	1C90A
04364	0000044350	L18300	REMK	DP-4	1C90A
		L18400	DIX	OUTPUT ROUTINE	1C90A
04365	01564444404	L18500	BUN	SL	1C90A
04366	0000044372	L18600	LDD	\$+4	1C90A
04367	00544444441	L18700	DIX	SF	1C90A
04370	05564444547	L18800	BUN	SD+37	1C90A
04371	0000044411			SG	1C90A

31	0444041505	001000	STR	12	L	XM	IC00A
32	0404041502	001100	STR	A	L	XV	IC00A
33	0404400000	001200	L0D	A	L	0	IC00A
34	0000040355	001300	BUN			ZP	IC00A
35	0000044635	001400	BUN			\$	IC00A
36	0456044660	001500	SRB			LJ	IC00A
37	0454400111	001600	L0D	13	L	73	IC00A
38	0004741100	001700	L0D	A		MC+73,3	IC00A
39	0456044706	001800	SRB			DA	IC00A
40	0004741100	001900	L0D	A		MC+73,3	IC00A
41	0004741100	002000	DIX	13	LZ	1	IC00A
42	0556400001	002100	BUN			\$-4	IC00A
43	0454400116	002200	L0D	13	L	78	IC00A
44	0454400116	002300	DIX	13		WB	IC00A
45	0055440624	002400	L0D	A	L	#20	IC00A
46	0404400020	002500	SRB			DA	IC00A
47	0456044706	002600	DIX	13	LZ	1	IC00A
48	0556400001	002700	BUN			\$-3	IC00A
49	0000044647	002800	L0D	A		VX	IC00A
50	0004444671	002900	SRB			DA	IC00A
51	0456044706	003000	L0D	A		VM	IC00A
52	0004444672	003100	SRB			DA	IC00A
53	0456044706	003200	BUN			(GC)	IC00A
54	0000044660	003300	BUN			\$	IC00A
55	0413437400	003400	MRG		L	#37400	IC00A
56	0404044667	003500	STR	A	L	VY	IC00A
57	0010444673	003600	DEFX	1		1,VZ	IC00A
58	0000044663	003700	BUN			\$-1	IC00A
59	1000044660	003800	BUN			(LJ)	IC00A
60	1001324747	003900	OC TL			1001324747	IC00A
61	1044477400	004000	OC TL			1044477400	IC00A
62	1073202020	004100	OC TL			1073202020	IC00A
63	1003727272	004200	OC TL			1003727272	IC00A
64	1072720401	004300	OC TL			1072720401	IC00A
65	1000001014	004400	OC TL			1000001014	IC00A
66	00000144666	004500	OC TL			ZJ+14000	IC00A
67	004660	004600	REMK			TYPE (A)	IC00A
68	064700	064700	ARO			12	IC00A
69	004800	004800	SUB		L	27	IC00A
70	004900	004900	BPO		L	\$+2	IC00A
71	005000	005000	ADD		L	49	IC00A
72	005100	005100	COM		GR	MD	IC00A

04754	0704365223	009400		04754	0704365223	3SELLI	IC00A
04755	0712222612	009500		04755	0712222612	2ASSI	IC00A
***	E20 S-09550	C01					
04756	0656363612	-09550		04756	0656363612	1PAUS	IC00A
04757	0222461471	009600		04757	0222461471	1PRIN	IC00A
04760	0457151471	009700		04760	0457151471	1PUNC	IC00A
04761	0634524471	009800		04761	0634524471	1BATC	IC00A
04762	1632361621	009900		04762	1632361621	0TYPE	IC00A
04763	0654730230	010000		04763	0654730230	0CALL	IC00A
04764	0434361630	010100		04764	0434361630	0REAL	IC00A
04765	1436165510	010200		04765	1436165510	0GOTO	IC00A
04766	0462346670	010300		04766	0462346670	0IF(S	IC00A
04767	0223466710	010400		04767	0223466710	0READ	IC00A
04770	0646165510	010500		04770	0646165510	0STOP	IC00A
04771	0474623220	010600		04771	0474623220	0OAPE	IC00A
04772	0654761000	010700		04772	0654761000	0END0	IC00A
04773	0006445650	010800		04773	0006445650	0END0	IC00A
04774	0346445650	010900		04774	0346445650	3PERT	IC00A
04775	0235165473	011000	MG	04775	0235165473	2YBOA	IC00A
04776	0614662302	011100		04776	0614662302	3VALE	IC00A
04777	0654361253	011200		04777	0654361253	2ELIG	IC00A
05000	0677143652	011300		05000	0677143652	2OUTI	IC00A
05001	0712324462	011400		05001	0712324462	1NSIO	IC00A
05002	0467122451	011500		05002	0467122451	1UENC	IC00A
05003	0634565241	011600		05003	0634565241	1INUE	IC00A
05004	0652445711	011700		05004	0652445711	0ORNO	IC00A
05005	0004551000	011800		05005	0004551000	0TION	IC00A
05006	0454671230	011900		05006	0454671230	0RNAL	IC00A
05007	0436145510	012000		05007	0436145510	0OGER	IC00A
05010	0516567000	012100		05010	0516567000	0OCAL	IC00A
05011	0436163000	012200		05011	0436163000	0ITCH	IC00A
05012	0706323710	012300		05012	0706323710	0OATC	IC00A
05013	0342361000	012400		05013	0342361000	000GN	IC00A
05014	0454600000	012500		05014	0454600000	000ON	IC00A
05015	0237067000	012600		05015	0237067000	00GHT	IC00A
05016	0456700000	012700		05016	0456700000	000GN	IC00A
05017	0234700000	012750		05017	0234700000	0000E	IC00A
05020	0650000000	012800		05020	0650000000	0000T	IC00A
05021	0230000000	012900		05021	0230000000	0000H	IC00A
05022	0700000000	013000		05022	0700000000	0000H	IC00A
05023	0700000000	013100		05023	0700000000	0000H	IC00A
05024	0654761000	013200	WH	05024	0654761000	00APE	IC00A

5 0645100000 013300
 6 0656345000 013400
 7 0237000000 013500
 8 0654500000 013600
 9 0450000000 013700
 10 0300000000 013800
 11 0000000000 013900
 12 0000000000 014000 M I
 13 0514703654 014100
 14 0514203642 014200
 15 0000041751 014300
 16 0224302371 014400
 17 0000041612 014500
 18 0000041654 014600
 19 0000040355 014700
 20 0000042615 014800
 21 0000042617 014900
 22 0000041611 015000
 23 0000042044 015100
 24 0000041640 015200
 25 0000041636 015300
 26 0712202271 015400
 27 0000042435 015500
 28 0000041726 015600
 29 0714302271 015700
 30 0000042354 015750
 31 0514200551 015800
 32 0476102371 015900
 33 0475103654 016000
 34 0476300565 016100
 35 0000042740 016200
 36 0233003642 016300
 37 0000042230 016400
 38 0000041637 016500
 39 0000042277 016600
 40 0000040544 016700
 41 0516300573 016800
 42 0222302371 016900
 43 0474703654 017000
 44 0000042623 017100
 45 0000042623 017100

E20 SMR0100
 C01 MR0100

REM K

MALFUNCTION REPORT

6451000000	000RD	IC00A
6563450000	00NCE	IC00A
2370000000	00OHT	IC00A
6545000000	000NE	IC00A
4500000000	0000N	IC00A
3000000000	0000Y	IC00A
0	00000*	IC00A
UC+514700000	READPAPER TAPE	IC00A
UG+514200000	READKEYBOARD	IC00A
ZB	EQUIVALENCE	IC00A
ZY+224300000	SENSELIGHT	IC00A
BM	SUBROUTINE	IC00A
ZR	DIMENSION	IC00A
ZP	FREQUENCY	IC00A
ID	CONTINUE	IC00A
IU	RETURN	IC00A
BL	FUNCTION	IC00A
BR	EXTERNAL	IC00A
AJ	INTEGER	IC00A
AK	LOGICAL	IC00A
MJ+712200000	IF (SENSE SWITCH)	IC00A
YU	FORMAT	IC00A
BA	COMMON	IC00A
MJ+714300000	IF (SENSE LIGHT)	IC00A
MX	ASSIGN	IC00A
MW+514200005	PAUSE	IC00A
ZY+476100000	PRINT	IC00A
UC+475100000	PUNCH	IC00A
UF+476300000	BATCH	IC00A
LH	TYPE	IC00A
UG+233000000		IC00A
LE+1	CALL	IC00A
AI	REAL	IC00A
ZM	GOTO	IC00A
MW	IF(S	IC00A
XI+516300000	READ	IC00A
ZY+222300000	STOP	IC00A
UC+474700000	PUNCHPAPER TAPE	IC00A
UH	END CR	IC00A
UH	END(IC00A

Account Number	Account Type	Account Description	Account Balance	Account Status
05075	0000045075	MR0200 SZ	\$-1	IC00A
05076	0004445075	MR0300	2	IC00A
05077	0426400002	MR0400	\$+2	IC00A
05100	0404045102	MR0500	(\$+1)	IC00A
05101	1050045102	MR0600	(\$)	IC00A
05102	1004445102	MR0700	3	IC00A
05103	0515400003	MR0800	3	IC00A
05104	0415400003	MR0900	3	IC00A
05105	0475400003	MR1000	#36060	IC00A
05106	0413436060	MR1100	\$+7	IC00A
05107	0404045116	MR1200	1, AH	IC00A
05110	0010445120	MR1300	\$-1	IC00A
05111	0000045110	MR1400	SZ	IC00A
05112	0000045075	MR1500	1001422641	IC00A
05113	1001422641	MR1600	1033524330	IC00A
05114	1033524330	MR1700	1051364443	IC00A
05115	1051364443	MR1800	1004236060	IC00A
05116	1004236060	MR1900	1001010101	IC00A
05117	1001010101	MR2000	1000001014	IC00A
05120	1000001014	MR2100	AV+240000	IC00A
05121	0000245113	MR2200	CONSTANTS	IC00A
05122	0004000000	Z00100	0	IC00A
05123	0464077776	Z00200	464077776	IC00A
05124	0000007777	Z00300	7777	IC00A
05125	0456077776	Z00400	456077776	IC00A
05126	0000000074	Z00500	74	IC00A
05127	1777750001	Z00600	1777750001	IC00A
05130	1777760000	Z00700	1777760000	IC00A
05131	0000000033	Z00800	33	IC00A
05132	0000000034	Z00900	34	IC00A
05133	1000000000	Z01000	1000000000	IC00A
05134	0000000005	Z01100	5	IC00A
05135	0000000042	Z01200	42	IC00A
05136	0130077776	Z01300	130077776	IC00A
05137	0000000034	Z01400	34	IC00A
05140	00117700000	Z01500	17700000	IC00A
05141	1777755303	Z01600	1777755303	IC00A
05142	0000160000	Z01700	160000	IC00A
05143	1054315001	Z01800	1054315001	IC00A
05144	0410000000	Z01900	41000000	IC00A
05145	0010000000	Z02000	10000000	IC00A
		Z02100		IC00A

Attention number after first account No listed

10, ST, INPUT

EXP
 SCAN, STORE
 EXT
 LOOP
 EXT CALL
 ASSIGN SPEC
 ST, INPUT
 ST, INPUT
 ST, INPUT
 ASSIGN SPEC
 I/O
 INPUT LINE
 ST, INPUT
 ST, INPUT
 I/O
 SCAN

4 05154000006 \$02800
 5 0160046375 \$02900
 6 0020046374 \$03000
 7 0604046355 \$03100
 8 040440013 \$03200
 9 0456044706 \$03300
 10 0004545344 \$03400
 11 0004545345 \$03500
 12 0000046345 \$03600
 13 0456044706 \$03700
 14 0004546503 \$03800
 15 045400004 \$03900
 16 0456045147 \$04000
 17 0054446340 \$04100
 18 0404400000 \$04200
 19 0110047472 \$04300
 20 0000046461 \$04400
 21 1574403770 \$04500
 22 0204444622 \$04600
 23 0464400035 \$04700
 24 0663447554 \$04800
 25 0000047510 \$04900
 26 0464046412 \$05000
 27 0023446412 \$05100
 28 1403400007 \$05200
 29 1405420404 \$05300
 30 0455044706 \$05400
 31 0054446412 \$05500
 32 0556447610 \$05600
 33 0000046422 \$05700
 34 1055047472 \$05800
 35 1007046412 \$05900
 36 1106446412 \$06000
 37 0445400027 \$06100
 38 0455000000 \$06200
 39 0164747573 \$06300
 40 0456047530 \$06400
 41 0004444622 \$06500
 42 0564402004 \$06600
 43 0130046434 \$06700
 44 0564402074 \$06800
 45 1564420404 \$06900
 46 0004444622

BRL	6	(A)#C1	IC00A
BZE	PN+1	JUMP IF C1#0	IC00A
RNM	PN	JUMP IF C1 NON-PIGIT	IC00A
STR	PM		IC00A
LDD	#13		IC00A
SRB	OA	TO TYPE (A)	IC00A
LDD	AT,1		IC00A
BUN	PV+5	TO TYPE OCTAL V	IC00A
SRB	OA	TO CONVERT+TYPE (A)	IC00A
LDD	00,1		IC00A
ARO	4		IC00A
SRB	LI		IC00A
LDD	PV		IC00A
LDD	0		IC00A
BNX	PJ+1		IC00A
BUN	PP		IC00A
LDD	#3770		IC00A
LDD	PA	(A)#OP	IC00A
LDD	29		IC00A
SCN	PR+4	SCAN FOR MNEMONIC	IC00A
BUN	TM		IC00A
STR	PF	(A)#MNEMONIC	IC00A
XOR	\$		IC00A
EXT	7		IC00A
ADD	#20404	ADD SP CHAR	IC00A
SRB	OA	TO TYPE (A)	IC00A
LDD	PF		IC00A
LDD	PM-1		IC00A
DIX	\$+2		IC00A
BUN	PJ+1		IC00A
RAM	(PF)	(A)#10P/ SKIP IF 3 LETTER OP	IC00A
DIV	(PF)		IC00A
ADD	(PF)		IC00A
ARO	23	(A)#16,17,18,19	IC00A
RWA	IS		IC00A
LDD	R		IC00A
SRB	PD	(B)#OP TERMINATION	IC00A
LDD	PA	TO TYPE (B)	IC00A
LDD	#2004	(B)#SP LC	IC00A
BPO	\$+2	SKIP IF DIRECT	IC00A
LDD	#2074	(B)#SP (IC00A
LDD	#20404	(B)#SP SP X X	IC00A
LDD	PA	(A)#OA	IC00A

06437	0130046442	\$07100							
06440	0556400000	\$07200							
06441	1564421024	\$07300							
06442	0456047530	\$07400	PU						
06443	0004444622	\$07440							
06444	0030046447	\$07450							
06445	0054446355	\$07500							
06446	0110046361	\$07600							
06447	0415400015	\$07800							
06450	0130046457	\$07900							
06451	0026444476	\$08000							
06452	0164447611	\$08100							
06453	0130046456	\$08200							
06454	0446010000	\$08300							
06455	0164447612	\$08400							
06456	0456047530	\$08500							
06457	0454400005	\$08600							
06460	0456045172	\$08700	PP						
06461	1574420006	\$08800							
06462	02044444622	\$08900							
06463	0160047472	\$09000							
06464	0435400003	\$09100							
06465	0130046467	\$09200							
06466	0406406700	\$09300							
06467	1404420514	\$09400							
06470	0000047471	\$09500							
06471	0000000000	\$09600							
06503	0177760002	\$09700	QQ						
06504	0000006650	\$09800							
06505	0000000000	\$09900							
07471	0406400401	\$10000	PJ						
07472	0456044706	\$10100							
07473	0404400000	\$10200							
07474	0404046340	\$10300							
07475	0404046355	\$10400							
07476	01644444622	\$10500							
07477	0004444415	\$10600							
07500	0403400377	\$10700							
07501	0000045201	\$10800							
07502	0454400002	\$10900	TX						
07503	0456045172	\$11000							

ALC	BPO	DIX	LDD	SRB	LDD	BNG	LDD	BNX	ALO	BPO	SUB	LDD	BPO	CMP	LDD	SRB	LDD	SRB	LDD	UB	LDD	ARA	BPO	ADD	LDD	BUN	BLKS	OCCL	OCCL	BLKS	ADD	SRB	LDD	STR	STR	EXT	BUN	LDD	SRB										
13	B	13	A	13	13	13	13	13	B	B	B	B	B	B	B	13	13	13	13	UB	A	13	ARA	BPO	ADD	LDD	BUN	BLKS	OCCL	OCCL	BLKS	ADD	SRB	LDD	STR	STR	EXT	BUN	LDD	SRB									
LZ	U	LZ														L	L	L	L	M	A	L	U	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L						
PU	0	21024														\$+3	\$+3	\$+3	\$+3	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM	PM				
#L	SP	X	X																																														

TO TYPE N -AF-
 SO-I+X TEST
 (A)#1+X TAGS OF OA
 TERMINATE IF NO TAGS
 NO I TAG
 ERASABLE VP ASSIGNS
 FORMAT VP
 SO TERMINATE (A)#CR
 TO TYPE (A)
 SET PV#PM#0

07504 0454046340
07505 0004447573
07506 0456044706
07507 0000046342

07510 0010447537
07511 0009047510
07512 0004444622
07513 0425400001
07514 0454400002
07515 0456045172
07516 0564400024
07517 0456047530
07520 0004444622
07521 0130046443
07522 0564400074
07523 0000046442
07524 0004044660
07525 0010444732
07526 0000047525
07527 0004440642
07530 0000047530
07531 0004040642
07532 1166047524
07533 1020443255
07534 1020642020
07535 1020202004
07536 0000047536
07537 1000001014
07540 0000147533
07541 1020443051
07542 1041202020
07543 1020202004
07544 1020272020
07545 0460000000
07546 1000001014
07547 0000147541
07550 1020552020
07551 1020366320
07552 1020366120
07553 1020262020
07554 0404614431

S11100
S11200
S11300
S11400
S11500
S11600 TM
S11700
S11800
S11900
S12000
S12100
S12200
S12300
S12400
S12500
S12600
S12700
S12800
S12900
S13000
S13100
S13200 PD
S13300
S13400
S13500 PH
S13600
S13700
S13800
S13900 PT
S14000
S14100 P1
S14200
S14300
S14340
S14350
S14400 PC
S14500
S14600 PB
S14700
S14800
S14900
S15000

STR	L3	L	PV	SP	DEX	SP	IC00A
LOD	A		PG				IC00A
SRB			OA				IC00A
BUN			PV+2				IC00A
REMK			SO-TYPE	SP	DEX	SP	IC00A
DEX	1		1,PT				IC00A
BUN			\$-1				IC00A
LOD	A		PA	(A)#0A			IC00A
ALC			1				IC00A
L3 L			2				IC00A
SRB			PX				IC00A
LOD	B	L	#24				IC00A
SRB			PD				IC00A
LOD	A		PA				IC00A
BPO			PU+1				IC00A
LOD	B	L	#74				IC00A
BUN			PU				IC00A
STR	A		LJ				IC00A
DEX	1		1,OC				IC00A
BUN			\$-1				IC00A
LOD	A		IC				IC00A
BUN			SO-TYPE (B)				IC00A
STR	A		IC				IC00A
EAM	B	J	PD-4				IC00A
OCCTL			1020443255		SP 0 E X		IC00A
OCCTL			1020642020		SP 4 SP SP		IC00A
OCCTL			1020202004		TEMP STORAGE		IC00A
BUN			\$				IC00A
OCCTL			1000001014				IC00A
OCCTL			PH+140000				IC00A
OCCTL			1020443051		SP O C T		IC00A
OCCTL			1041202020		L SP S P SP		IC00A
OCCTL			1020202004		SP SP SP SP LC		IC00A
OCCTL			1020272020				IC00A
OCCTL			460000000				IC00A
OCCTL			1000001014				IC00A
OCCTL			PI+140000				IC00A
OCCTL			1020552020				IC00A
OCCTL			1020366320		SP I 3 SP		IC00A
OCCTL			1020366120		SP I 1 SP		IC00A
OCCTL			1020262020		SP A SP SP		IC00A
OCCTL			0404614431		LOD A		IC00A

SYMBOL TABLE

IJ	R 00304	LZ	R 00321	WK	R 00351	UZ	R 00352
BO	R 00353	ZP	R 00355	EL	R 00377	EI	R 00402
IA	R 00405	YV	R 00437	MD	R 00440	NV	R 00460
CI	R 00501	IG	R 00507	WE	R 00510	HY	R 00531
WM	R 00544	UF	R 00565	XI	R 00573	IM	R 00600
WA	R 00606	XP	R 00611	XN	R 00616	XM	R 00623
WB	R 00624	OH	R 00635	ZQ	R 00636	IC	R 00642
JJ	R 00654	JK	R 00672	VC	R 00677	XL	R 00713
JL	R 00740	JM	R 00743	JD	R 00750	WC	R 00767
VD	R 01100	JI	R 01102	IX	R 01115	LZ	R 01116
QZ	R 01135	HC	R 01141	BT	R 01150	WM	R 01155
ZN	R 01157	TZ	R 01165	BU	R 01166	YI	R 01201
ZO	R 01202	YG	R 01234	YF	R 01236	TY	R 01252
YH	R 01253	DK	R 01266	YJ	R 01271	CM	R 01276
CK	R 01311	CO	R 01317	CJ	R 01336	CX	R 01347
CM	R 01363	CU	R 01435	UV	R 01401	UM	R 01406
DH	R 01427	CG	R 01456	DI	R 01440	CY	R 01444
CN	R 01451	UY	R 01500	CS	R 01462	CP	R 01465
CL	R 01473	XY	R 01525	XS	R 01501	XV	R 01502
XM	R 01505	YQ	R 01561	XT	R 01542	XX	R 01555
BE	R 01560	YB	R 01577	YZ	R 01562	BW	R 01566
EA	R 01572	ZC	R 01631	WY	R 01604	HL	R 01611
BM	R 01612	EV	R 01650	AK	R 01636	AI	R 01637
AJ	R 01640	BV	R 01726	ZR	R 01654	ZU	R 01662
ZV	R 01723	BA	R 02020	ZL	R 01751	ZD	R 01754
ZH	R 02001	ZG	R 02044	AB	R 02027	ZI	R 02034
GU	R 02036	BR	R 02103	IF	R 02053	AS	R 02062
AO	R 02146	AP	R 02154	AO	R 02174	AE	R 02137
AR	R 02223	GK	R 02227	ZS	R 02247	AC	R 02213
AM	R 02267	LE	R 02271	ZM	R 02277	WU	R 02264
ZT	R 02313	WJ	R 02316	CF	R 02342	XD	R 02311
ZX	R 02354	BS	R 02371	XB	R 02400	CH	R 02402
WX	R 02422	ZY	R 02432	YU	R 02435	IE	R 02444
HG	R 02446	NX	R 02452	NI	R 02506	NJ	R 02507
NK	R 02512	NS	R 02527	NB	R 02532	NO	R 02545
NN	R 02546	NH	R 02551	IK	R 02554	NP	R 02572
NC	R 02575	NR	R 02577	XK	R 02601	UD	R 02603
ID	R 02615	NA	R 02617	BI	R 02621	UH	R 02623

LB	R	02631
LF	R	02701
UA	R	02752
BH	R	03037
BG	R	03063
EM	R	03104
EF	R	03125
XU	R	03142
FV	R	03154
ES	R	03177
EN	R	03230
EM	R	03272
EE	R	03307
IY	R	03341
GN	R	03370
FS	R	03415
FW	R	03444
FT	R	03505
GD	R	03547
FJ	R	03570
FG	R	03621
UG	R	03642
JB	R	03705
JF	R	03745
HK	R	03770
HM	R	04002
HN	R	04033
HH	R	04105
HE	R	04145
GV	R	04176
GS	R	04220
HF	R	04251
FI	R	04274
HR	R	04325
OP	R	04354
SG	R	04411
SB	R	04444
SD	R	04502
OD	R	04625
ZJ	R	04666
VZ	R	04673
WF	R	04734
JN	R	02636
LA	R	02712
BF	R	02777
BC	R	03044
EC	R	03070
EU	R	03105
BY	R	03134
MC	R	03144
ER	R	03161
EG	R	03204
EP	R	03236
EX	R	03274
FA	R	03320
GO	R	03345
GM	R	03371
GI	R	03416
GG	R	03463
GH	R	03507
GF	R	03554
FC	R	03603
FE	R	03625
IZ	R	03651
AM	R	03722
WN	R	03747
HL	R	03775
HO	R	04007
HT	R	04044
MB	R	04116
HD	R	04157
GR	R	04202
GY	R	04223
CE	R	04252
FO	R	04302
YY	R	04331
IN	R	04363
SM	R	04415
SK	R	04452
SE	R	04552
IT	R	04626
VY	R	04667
OA	R	04706
WG	R	04775
LC	R	02650
LG	R	02714
BD	R	03022
IL	R	03047
EB	R	03075
EQ	R	03112
EH	R	03135
GP	R	03151
EK	R	03165
MO	R	03221
ET	R	03242
HZ	R	03300
FU	R	03330
GJ	R	03361
GZ	R	03375
GB	R	03432
AG	R	03467
GC	R	03511
AF	R	03562
FD	R	03612
ZA	R	03627
UC	R	03654
JC	R	03732
HW	R	03753
HJ	R	03776
HQ	R	04016
HU	R	04051
MA	R	04123
GM	R	04170
GO	R	04206
FL	R	04226
FN	R	04263
IM	R	04307
II	R	04335
SI	R	04365
SH	R	04420
SJ	R	04474
PA	R	04622
QC	R	04635
VX	R	04671
VU	R	04731
WH	R	05024
LD	R	02664
LH	R	02740
IV	R	03036
WZ	R	03057
CC	R	03103
EY	R	03124
ED	R	03141
FZ	R	03152
EO	R	03172
EJ	R	03223
AD	R	03256
EZ	R	03303
CD	R	03331
FR	R	03366
GY	R	03412
FX	R	03437
GA	R	03472
GL	R	03543
FB	R	03567
FF	R	03613
FH	R	03641
JE	R	03665
JD	R	03740
HV	R	03761
HI	R	03777
HP	R	04027
HS	R	04062
HA	R	04134
GX	R	04174
GT	R	04210
FK	R	04232
FM	R	04264
FQ	R	04324
AX	R	04342
SL	R	04404
SF	R	04441
AU	R	04476
WL	R	04623
LJ	R	04660
VM	R	04672
OC	R	04732
MI	R	05034

SZ
KB
KF
KJ
KN
KT
LI
OS
TD
TH
VA
PY
PK
GO
PD
PC
OK
UJ

R 05075
R 05123
R 05127
R 05133
R 05137
R 05143
R 05147
R 05206
R 05212
R 05216
R 05222
R 06333
R 06404
R 06503
R 07530
R 07546
R 07614
R 10213

AV
KC
KG
KK
KO
KM
AA
TA
TE
TI
AT
PV
PF
PJ
PH
PB
XZ
AY

R 05113
R 05124
R 05130
R 05134
R 05140
R 05144
R 05162
R 05207
R 05213
R 05217
R 05344
R 06340
R 06412
R 07471
R 07533
R 07550
R 07614
R 10213

AH
KD
KH
KL
KR
KX
PX
TB
TF
TJ
WD
PM
PU
TX
PT
PG
CA
XQ

R 05120
R 05125
R 05131
R 05135
R 05141
R 05145
R 05172
R 05210
R 05214
R 05220
R 05344
R 06355
R 06442
R 07502
R 07537
R 07573
R 10154
R 10214

KA
KE
KI
KM
KS
KY
PZ
TC
TG
TK
AZ
PN
PP
TW
PI
PM
CB

R 05122
R 05126
R 05132
R 05136
R 05142
R 05146
R 05201
R 05211
R 05215
R 05221
R 06332
R 06374
R 06461
R 07510
R 07541
R 07611
R 10155