

29-MAR-84 08:16 PAGE 48

04 ROMSOFTC

INPUT AND READ CODE

```

474 4C3:85 DE DC40:00
475 4C4:85 B8 DC40:00
476 4C5:85 B9 DC40:00
477 4C6:85 00 DC40:00
478 4C7:85 01 DC40:00
479 4C8:85 02 DC40:00
480 4C9:85 03 DC40:00
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482 4CB:85 05 DC40:00
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484 4CD:85 07 DC40:00
485 4CE:85 08 DC40:00
486 4CF:85 09 DC40:00
487 4D0:85 0A DC40:00
488 4D1:85 0B DC40:00
489 4D2:85 0C DC40:00
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495 4D8:85 12 DC40:00
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649 614:85 AC DC40:00
650 615:85 AD DC40:00
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652 617:85 AF DC40:00
653 618:85 B0 DC40:00
654 619:85 B1 DC40:00
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905 872:85 AC DC40:00
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907 874:85 AE DC40:00
908 875:85 AF DC40:00
909 876:85 B0 DC40:00
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919 886:85 BA DC40:00
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925 892:85 C0 DC40:00
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956 923:85 DF DC40:00
957 924:85 E0 DC40:00
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959 926:85 E2 DC40:00
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982 949:85 F9 DC40:00
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984 951:85 FB DC40:00
985 952:85 FC DC40:00
986 953:85 FD DC40:00
987 954:85 FE DC40:00
988 955:85 FF DC40:00
989 956:85 00 DC40:00
990 957:85 01 DC40:00
991 958:85 02 DC40:00
992 959:85 03 DC40:00
993 960:85 04 DC40:00
994 961:85 05 DC40:00
995 962:85 06 DC40:00
996 963:85 07 DC40:00
997 964:85 08 DC40:00
998 965:85 09 DC40:00
999 966:85 0A DC40:00
1000 967:85 0B DC40:00

```

;C IS SET PROPERLY ABOVE.

;MAKE A STRING DESCRIPTOR FOR VALUE
;SET TEXT POINTER.
;DO ASSIGNMENT.

;BLANK INPUT?

;GET VALUE.
;SET CODES ON FLAG.
;GO DECIDE ON FLOAT.
;READ LAST CHARACTER.
;: OR EOL IS OK.
;A COMMA?

;SAVE FOR MORE READS.

;POINT TO VARIABLE LIST.
;LOOK AT LAST VARIABLE LIST CHARACTER.
;THAT'S THE END OF THE LIST.
;NOT END. CHECK FOR COMMA.

THE EXECUTION CODE FOR DATA TO
START WORD OF EACH STATEMENT
EACH NEW LINE NUMBER
IF AN ERROR OCCURS
THE MESSAGE CAN GIVE THE LINE
THE ERROR DATA.
SKIP SOME TEXT.

;END OF LINE?
;SHOW AIN.T.
;YES = "NO DATA" ERROR.

;GET HIGH BYTE OF LINE NUMBER.

;GET LOW BYTE.

"DTCA2DOC-007-049.PICT" 81 KB 2001-03-26 dpi: 250h x 250v pix: 1958h x 2260v

"DTCA2DOC-007-050.PICT" 162 KB 2001-03-26 dpi: 250h x 250v pix: 1998h x 2466v

Source: David T Craig

"DTCA2DOC-007-052.PICT" 176 KB 2001-03-26 dpi: 250h x 250v pix: 1993h x 2486v

[illegible]

"DTCA2DOC-007-054.PICT" 138 KB 2001-03-26 dpi: 250h x 250v pix: 1998h x 2426v

"DTCA2DOC-007-056.PICT" 157 KB 2001-03-26 dpi: 250h x 250v pix: 1998h x 2356v

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FORMULA EVALUATION CODE.
;GET FUNCTION NUMBER.

FINGO
PARCHK

;DISPATCH TO FUNCTION.
;READ A FORMULA SURROUNDED BY PARENS.
;GET DISPATCH FUNCTION.

FUNDSP-ONEFUN-ONEFUN+256,Y ;MODIFY DISPATCH ADR
JMPER+1
FUNDSP-ONEFUN-ONEFUN+257,Y
JMPER+2
JMPER

;DISPATCH!
;STRING REMOVE THIS RET ADDR.
;CHECK IT FOR NUMERICNESS AND RETURN.

DROP:
ARGEXP
FACEV1
ARGEXP
GIVEO
FACEV1
GIVEO

ANDOP:
ARGEXP
FACEV1
GIVEO

GIVEO:
LDY #0
LDY #44
LDY #1
SNGFLT

GIVE1:
JMPER
; TIME TO PERFORM A RELATIONAL OPERATOR.
; DOMASK CONTAINS THE BITS AS TO WHICH RELATIONAL
; OPERATOR IT WAS. CARRY BIT ON=STRING COMPARE.
; DOREL:
JSCR
CHKVAL
STRCMP
ARGSGN
#127
ARGHO
ARGEXP
#<ARGEXP
FCOMP

STRCMP:
QCOMP
#$00
VALTYP
OPMASK
FREFAC
DSCIMP+1
DSCIMP+1+1
ARGMO+1
FRETMP
ARGMO
ARGMO+1

;RESULT WILL BE NUMERIC.
;TURN OFF VALTYP WHICH WAS STRING.
;FREE THE FACLO STRING.
;SAVE FOR LATER.

;GET POINTER TO OTHER STRING.
;FREES FIRST DESC POINTER.

;COPY COUNT INTO X.
;WHICH IS GREATER. IF 0, ALL SET UP.
;JUST PUT SIGN OF DIFFEREE AWAY.
;SIGN IS POSITIVE.

```

```

;MAP 0 TO 0. ALL OTHERS TO 1.
;FLOAT THE ONE-BYTE RESULT INTO FAC.
;GET X= PDL#

```

"DTCA2DOC-007-059.PICT" 190 KB 2001-03-26 dpi: 250h x 250v pix: 1998h x 2340v

05 ROMSOFTU	IMENSION AN	TURNON:	STRNAM:	GARRAY:	STXFND:	LOPFND:	LOPFN:	NOTIT:	ISLETC:	ISLRTS:	LDZR:
032:0581	382										
033:0581	383										
034:0581	384										
035:0581	385										
036:0581	386										
037:0581	387										
038:0581	388										
039:0581	389										
040:0581	390										
041:0581	391										
042:0581	392										
043:0581	393										
044:0581	394										
045:0581	395										
046:0581	396										
047:0581	397										
048:0581	398										
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052:0581	402										
053:0581	403										
054:0581	404										
055:0581	405										
056:0581	406										
057:0581	407										
058:0581	408										
059:0581	409										
060:0581	410										
061:0581	411										
062:0581	412										
063:0581	413										
064:0581	414										
065:0581	415										
066:0581	416										
067:0581	417										
068:0581	418										
069:0581	419										
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078:0581	428										
079:0581	429										
080:0581	430										
081:0581	431					</					

```

29-MAR-84 08:16 PAGE 61
;R STRINGS OR NUMERIC.
;AND FOR INTEGERS TOO.

;LOWEST THING TO MOVE.
;GET HIGHEST ADDR TO MOVE.

;PLACE TO STUFF IT.
;MOVE IT ALL.

;AND SET UP

;NEW START OF ARRAY TABLE.
;GET ADDR OF VARIABLE ENTR.

;STORE NAME OF VARIABLE.

;FOURTH ERO FOR DEF FUNG.

;THIS IS IT.

```

"DTCA2DOC-007-062.PICT" 150 KB 2001-03-26 dpi: 250h x 250v pix: 1983h x 2350v

PUSH DIMFLG AND VALTYP FURTHER.

```

;PUT INDEX ONTO STACK.
;UNDER DIMFLG AND VALTYP.

```

```

; INCREMENT # OF DIMS.
; GET TERMINATING CHARACTER.
; A COMMA?

```

AVE COUNT OF DIMS. MUST BE CLOSED PAREN.

GET VALTYP AND

```

;DIMFLG OFF STACK.
;PLACE TO START SEARCH.

```

END OF ARRAYS?

!A FINE THING! NO ARRAY!

;/COMPARE HIGH ORDERS. GET OUT OF HERE.
;/NO WAY IS IT THIS. GET OUT OF HERE.

FLOW ORDERS?

WELL, HERE IT IS !!

GET LENGTH.

```

; ALWAYS BRANCHES.
; GET BAD SUB ERROR NUMBER.

```

;TOO BIG. 'FUNCTION CALL' ERROR.

PERHAPS A "RE-DIMENSION" ERROR

TEST THE DIMFLG

;RETURN TO DATA SAVE ROUTINES.

```
GET NUMBER OF DIMS INPUT
```

[illegible]

"DTCA2DOC-007-064.PICT" 141 KB 2001-03-26 dpi: 250h x 250v pix: 2003h x 2346v

ON RTS, A&Y=HI . X=LO.

29-MAR-84 08:16 PAGE 67
;RETURN TO CALLER.

VARPNT

LDA
RTS

ULTIPLE DI
95
96 DIMRTS:

06 ROMSQFTE
E2AA:A5 83
E2AC:60

```

06 RMSOFT 29-MAR-84 08:16 PAGE 68
NTEGER AR
99 ;TWO BYTE UNSIGNED INTEGER MULTIPLY.
100 ;THIS IS FOR MULTIPLY DIMENSIONED ARRAYS.
101 ; X,Y=X,A=CURTOL*LOWTR,Y,Y+1.
102 ; UMULT:
103 STY INDEX
104 LDA (LOWTR),Y
105 ADDEND
106 (LOWTR),Y
107 ADDEND+1
108 #16
109 DECCNT
110 #0
111 UMULTD:
112 LDY A
113 TXA
114 ASL
115 TAX
116 ROL
117 TAY
118 BCS
119 ASL
120 ROL
121 BCC
122 TXA
123 ADC
124 TAY
125 ADDEND+1
126 TAY
127 ADC
128 TAY
129 BCS
130 DEC
131 BNE
132 UMULTC:
133 LDY A
134 TXA
135 ASL
136 TAX
137 ROL
138 TAY
139 BCS
140 ASL
141 ROL
142 BCC
143 TXA
144 ADC
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146 ADDEND+1
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148 ADC
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150 BCS
151 DEC
152 BNE
153 UMULTC:
154 LDY A
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06 RMSOFTE
157 ; NOTE ONLY SINGLE ARGUMENTS ARE ALLOWED TO FUNCTIONS
158 ; AND FUNCTIONS MUST BE OF THE SINGLE LINE FORM:
159 DEF FNA(X)=X2+X*2
160 ; NO STRINGS CAN BE INVOLVED WITH THESE FUNCTIONS.
161 ; IDEA: CREATE A SIMPLE VARIABLE ENTRY
162 ; WHOSE FIRST CHARACTER HAS THE 200 BIT SET.
163 ; THE VALUE WILL BE:
164 ; A TEXT PNTR TO THE FORMULA VARIABLE.
165 ; A PNTR TO THE ARGUMENT VARIABLE.
166 ; FUNCTION NAMES CAN BE LIKE FNA4.
167 ; SUBROUTINE TO SEE IF WE ARE IN DIRECT MODE.
168 ; AND COMPLAIN IF SO.
169 ERRDIR: LDX CURLIN+1
170 INX
171 BNE
172 LDX
173 DFB
174 LDX
175 JMP
176 JSR
177 JSR
178 LDA
179 STA
180 JSR
181 JSR
182 JSR
183 LDA
184 PHA
185 LDA
186 LDA
187 LDA
188 LDA
189 LDA
190 LDA
191 LDA
192 LDA
193 LDA
194 LDA
195 JSR
196 JMP
197 ; SUBROUTINE TO
198 GETFNM: LDX
199 JSR
200 ORA
201 STA
202 JSR
203 STY
204 JMP
205 JSR
206 LDA
207 LDA
208 LDA
209 LDA
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"DTCA2DOC-007-071.PICT" 127 KB 2001-03-26 dpi: 250h x 250v pix: 1993h x 2471v

"DTCA2DOC-007-072.PICT" 176 KB 2001-03-26 dpi: 250h x 250v pix: 1983h x 2356v

"DTCA2DOC-007-073.PICT" 158 KB 2001-03-26 dpi: 250h x 250v pix: 1993h x 2350v

"DTCA2DOC-007-074.PICT" 137 KB 2001-03-26 dpi: 250h x 250v pix: 1993h x 2230v

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00 ROMSOFT  4490 (INDEX1),Y
01  4500 TAX
02  4510 INY
03  4520 LDA
04  4530 PHP
05  4540 INY
06  4550 LDA
07  4560 ADC
08  4570 STA
09  4580 INY
10  4590 LDA
11  4600 ADC
12  4610 STA
13  4620 PLP
14  4630 TXA
15  4640 BMI
16  4650 INY
17  4660 LDA
18  4670 LDY
19  4680 ASL
20  4690 ADC
21  4700 ADC
22  4710 STA
23  4720 BCC
24  4730 INCC
25  4740 LDX
26  4750 CPX
27  4760 BNE
28  4770 CMP
29  4780 BEQ
30  4790 JSR
31  4800 BEQ
32  4810 EQU
33  4820 LDA
34  4830 BMI
35  4840 INY
36  4850 LDA
37  4860 BPL
38  4870 INY
39  4880 LDA
40  4890 BEQ
41  4900 INY
42  4910 LDA
43  4920 TAX
44  4930 INY
45  4940 LDA
46  4950 CMP
47  4960 BCC
48  4970 BNE
49  4980 CPX
50  4990 CPX
51  5000 ACS
52  5010 CMP
53  5020 BCC
54  5030 BNE
55  5040 CPX
56  5050 BCC
57  5060 BCC

TRNG FUNCTION
4490 (INDEX1),Y
4500 TAX
4510 INY
4520 LDA
4530 PHP
4540 INY
4550 LDA
4560 ADC
4570 STA
4580 INY
4590 LDA
4600 ADC
4610 STA
4620 PLP
4630 TXA
4640 BMI
4650 INY
4660 LDA
4670 LDY
4680 ASL
4690 ADC
4700 ADC
4710 STA
4720 BCC
4730 INCC
4740 LDX
4750 CPX
4760 BNE
4770 CMP
4780 BEQ
4790 JSR
4800 BEQ
4810 EQU
4820 LDA
4830 BMI
4840 INY
4850 LDA
4860 BPL
4870 INY
4880 LDA
4890 BEQ
4900 INY
4910 LDA
4920 TAX
4930 INY
4940 LDA
4950 CMP
4960 BCC
4970 BNE
4980 CPX
4990 CPX
5000 ACS
5010 CMP
5020 BCC
5030 BNE
5040 CPX
5050 BCC

;FORM POINTER TO NEXT ARRAY VAR.
;RESET INDEX Y.
;CARRY IS OFF AND OFF AFTER ADD.
;END OF THE ARRAY?
;YES.
;CYCLE.
;IS LENGTH=0?
;YES, RETURN.
;GET LOW(ADR).
;COMPARE HIGHS.
;IF THIS STRING'S PNTR GE, FRETOP
;NO NEED TO MESS WITH IT FURTHER.
;COMPARE LOWS.
;IF THIS STRING IS BELOW PREVIOUS,
;COMPARE LOW ORDERS.
;X,A .LE. GRBTOP.

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"DTCA2DOC-007-076.PICT" 137 KB 2001-03-26 dpi: 250h x 250v pix: 2003h x 2325v

"DTCA2DOC-007-078.PICT" 155 KB 2001-03-26 dpi: 250h x 250v pix: 2018h x 2542v

"DTCA2DOC-007-079.PICT" 162 KB 2001-03-26 dpi: 250h x 250v pix: 2003h x 2376v

Source: David T Craig

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07  ROMSOFT-
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717: 85 85 5E B8
719: 86 86 5E B8
721: 87 87 5E B8
723: 88 88 5E B8
725: 89 89 5E B8
727: 90 90 5E B8
729: 91 91 5E B8
731: 92 92 5E B8
733: 93 93 5E B8
735: 94 94 5E B8
737: 95 95 5E B8
739: 96 96 5E B8
741: 97 97 5E B8
743: 98 98 5E B8
745: 99 99 5E B8
747: 00 00 5E B8
749: 01 01 5E B8
751: 02 02 5E B8
753: 03 03 5E B8
755: 04 04 5E B8
757: 05 05 5E B8
759: 06 06 5E B8
761: 07 07 5E B8
763: 08 08 5E B8
765: 09 09 5E B8
767: 0A 0A 5E B8
769: 0B 0B 5E B8
771: 0C 0C 5E B8
773: 0D 0D 5E B8
775: 0E 0E 5E B8
777: 0F 0F 5E B8
779: 10 10 5E B8
781: 11 11 5E B8
783: 12 12 5E B8
785: 13 13 5E B8
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789: 15 15 5E B8
791: 16 16 5E B8
793: 17 17 5E B8
795: 18 18 5E B8
797: 19 19 5E B8
799: 1A 1A 5E B8
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803: 1C 1C 5E B8
805: 1D 1D 5E B8
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827: 28 28 5E B8
829: 29 29 5E B8
831: 2A 2A 5E B8
833: 2B 2B 5E B8
835: 2C 2C 5E B8
837: 2D 2D 5E B8
839: 2E 2E 5E B8
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861: 39 39 5E B8
863: 3A 3A 5E B8
865: 3B 3B 5E B8
867: 3C 3C 5E B8
869: 3D 3D 5E B8
871: 3E 3E 5E B8
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897: 4B 4B 5E B8
899: 4C 4C 5E B8
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997: 7D 7D 5E B8
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0021: 89 89 5E B8
0023: 8A 8A 5E B8
0025: 8B 8B 5E B8
0027: 8C 8C 5E B8
0029: 8D 8D 5E B8
0031: 8E 8E 5E B8
0033: 8F 8F 5E B8
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0097: 15 15 5E B8
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0101: 17 17 5E B8
0103: 18 18 5E B8
0105: 19 19 5E B8
0107: 1A 1A 5E B8
0109: 1B 1B 5E B8
0111: 1C 1C 5E B8
0113: 1D 1D 5E B8
0115: 1E 1E 5E B8
0117: 1F 1F 5E B8
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0123: 22 22 5E B8
0125: 23 23 5E B8
0127: 24 24 5E B8
0129: 25 25 5E B8
0131: 26 26 5E B8
0133: 27 27 5E B8
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0141: 2B 2B 5E B8
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0145: 2D 2D 5E B8
0147: 2E 2E 5E B8
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0157: 33 33 5E B8
0159: 34 34 5E B8
0161: 35 35 5E B8
0163: 36 36 5E B8
0165: 37 37 5E B8
0167: 38 38 5E B8
0169: 39 39 5E B8
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0195: 46 46 5E B8
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0199: 48 48 5E B8
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0207: 4C 4C 5E B8
0209: 4D 4D 5E B8
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0213: 4F 4F 5E B8
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0233: 59 59 5E B8
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0239: 5C 5C 5E B8
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0243: 5E 5E 5E B8
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0273: 6D 6D 5E B8
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0293: 77 77 5E B8
0295: 78 78 5E B8
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0443: 28 28 5E B8
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0773: 33 33 5E B8
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0793: 3D 3D 5E B8
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0805: 43 43 5E B8
0807: 44 44 5E B8
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0819: 4A 4A 5E B8
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0887: 6C 6C 5E B8
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0939: 86 86 5E B8
0941: 87 87 5E B8
0943: 88 88 5E B8
0945: 89 89 5E B8
0947: 8A 8A 5E B8
0949: 8B 8B 5E B8
0951: 8C 8C 5E B8
0953: 8D 8D 5E B8
0955: 8E 8E 5E B8
0957: 8F 8F 5E B8
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0981: 01 01 5E B8
0983: 02 02 5E B8
0985: 03 03 5E B8
0987: 04 04 5E B8
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0999: 0A 0A 5E B8
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1003: 0C 0C 5E B8
1005: 0D 0D 5E B8
1007: 0E 0E 5E B8
1009: 0F 0F 5E B8
1011: 10 10 5E B8
1013: 11 11 5E B8
1015: 12 12 5E B8
1017: 13 13 5E B8
1019: 14 14 5E B8
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1037: 1D 1D 5E B8
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1167: 5E 5E 5E B8
1169: 5F 5F 5E B8
1171: 60 60 5E B8
1173: 61 61 5E B8
1175: 62 62 5E B8
1177
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Source: David T Craig

THROUGHOUT THE MATH PACKAGE. AS FOLLOWS:
 THE POINT FORMAT IS OF THE MANTISSA.
 THE SIGN IS THE 24 BIT LONG.
 THE MANTISSA POINT IS TO THE LEFT OF THE MSB.
 NUMBER = MANTISSA * 2^{EXPOS}.
 THE MANTISSA IS POSITIVE WITH A 1 ASSUMED TO BE WHERE
 THE SIGN OF THE STORED IN EXCESS 200, IE, WITH A BIAS OF
 THE EXPOS. THE IS A SIGNED 8-BIT NUMBER.
 SO, THE EXPOS. OF ZERO MEANS SHE NUMBER TO BE ZERO.
 AN EXPOS. BYTES MAY NOT BE IN THE FAC WHILE SHIFTING,
 TO KEEP THE SAME NUMBER NOT IN THE FAC WHILE SHIFTING,
 TO SHIFT LEFT, EXP: = EXP + 1
 TO SHIFT RIGHT, EXP: = EXP - 1
 IN MEMORY LEFT, NUMBER LOOKS LIKE THIS:
 THE EXPOS. AS A SIGNED NUMBER +200
 THE SIGN BIT IN 7, BITS 2-8 OF MANTISSA IN BITS 6-0.
 (REMEMBER OF 1 OF MANTISSA IS ALWAYS A ONE.)
 BITS 9-16 OF THE MANTISSA
 BITS 17-24 OF THE MANTISSA
 BIT 17 IS THE CALLING CONVENTION
 FOR ONE ARGUMENT IN THE FAC.
 THE TWO ARGUMENTS LEFT IN THE FAC.
 FOR TWO ARGUMENTS LEFT IN THE FAC.
 THE 1ST ARGUMENT IS IN THE FAC.
 THE 2ND ARGUMENT IS IN THE FAC.
 THE RESULT IS LEFT IN THE FAC.
 THE ENTRY POINT IS TO THE 2-ARGUMENT OPERATIONS HAVE B
 SETUP IN RESPECTIVE REGISTERS. BEFORE CALLING ARG MAY
 POPPED OFF THE STACK AND INTO ARG. FOR EXAMPLE, ARGUMENT
 THE OTHER ENTRY POINT IS UNPACKED ON FIRST, THE LO, MO, HO &
 SOMEWHERE IN MEMORY. IT IS PUSHED IN ARG, FAC & ON THE S
 ON THE STACK, THE ARE KEPT UNPACKED THAT, IT IS PACKED THE S
 NOTE ALL THINGS ARE KEPT IS UNPACKED IN ARG, FAC & ON THE S
 IT IS ONLY WHEN SOMETHING IS A SGN BYTE REFLECTING THE S
 BYTES. UNPACKED FORMATTIVE = -1) A HO, MO & LO WITH THE H
 NUMBER. (POSITIVE = 0, NEGATIVE = -1) THE EXP IS THE SAME STORED FORMAT.
 OF THE HO TURNED ON, THE EXP IS THE SAME STORED FORMAT.
 THIS IS DONE FOR SPEED OF OPERATION.

Source: David T Craig

Source: David T Craig

;;C CAN BE EITHER 1,0 AND IT WORKS.

;EQUIV TO BEQ HERE.

YES, TWO OF THEM.

```

;ONE MO TIME.
;ROTATE ARGUMENT 1 BIT RIGHT.

```

;\$\$\$ (MOST EXPENSIVE !)
;CLEAR OUTPUT OF FACOV.

07 ROMSOFTF	LOADING POINT	ADDITION AND
00000000	344	SHFTR2
00000001	345	SHFTR2
00000002	346	#@10
00000003	347	FACOV
00000004	348	SHFTR1
00000005	349	1,X
00000006	350	SHFTR4
00000007	351	1,X
00000008	352	1,X
00000009	353	1,X
00000010	354	1,X
00000011	355	*X
00000012	356	2,X
00000013	357	3,X
00000014	358	4,X
00000015	359	A
00000016	360	SHFTR3
00000017	361	BEI
00000018	362	SBC
00000019	363	TAY
00000020		LBCS
00000021		ASL
00000022		BCC
00000023		INC
00000024		ROR
00000025		ROR
00000026		EQU
00000027		ROR
00000028		ROR
00000029		ROR
00000030		INX
00000031		BNE
00000032		CLC
00000033		RTS


```

07 ROMSUFTF
E952:55 9D
E954:A9 2D
E956:A0 E9
E958:2D B3
E95A:58 A9
E95C:5D A0
E95E:62 A9
E960:64 A0
E962:66 A0
E964:69 A0
E966:6B A0
E968:70 A9
E970:72 A9
E972:74 A0
E974:77 28
E976:78 20
E978:7B A9
E97D:7D A0
E97F:

ATURAL LOG FU
424 STA
425 LDA #SQRO.5
426 LDY #<SQRO.5
427 ; CALCULATE (F-SQR(.5))/(F+SQR(.5))
428 JSR FADD
429 LDA #SQR2.0
430 LDY #<SQR2.0
431 JSR FDIV
432 LDA #FONE
433 LDY #<FONE
434 JSR FSUB
435 LDA #LOGGCN2
436 LDY #<LOGGCN2
437 JSR POLYX
438 LDA #NEGHLF
439 LDY #<NEGHLF
440 JSR FADD
441 FINLOG
442 #LDG2
443 MULLN2:
444 LDY ;MULTIPLY TOGETHER.
445 ; JMP FMULT

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;RESULT IS FAC IN RANGE 0.5,1.
;GET POINTER TO SQR(0.5).
;ADD TO FAC.
;GET SQR(2.).

;EVALUATE APPROXIMATION POLYNOMIAL.
;ADD IN LAST CONSTANT.
;GET EXPONENT BACK.
;ADD IT IN.
;MULTIPLY RESULT BY LOG(2.0).

```


[illegible]

"DTCA2DOC-007-092.PICT" 158 KB 2001-03-26 dpi: 250h x 250v pix: 575h x 738v

"DTCA2DOC-007-093.PICT" 70 KB 2001-03-26 dpi: 250h x 250v pix: 1957h x 2386v

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07 ROMSOFTF
EAE6::A55 62E3E 649
EAE8::A55 640 650
EAE9::A55 640 651
EAE9::A55 640 652
EAE9::A55 640 653
EAE9::A55 640 654
EAE9::A55 640 655
EAE9::A55 640 656
EAE9::A55 640 657
EAE9::A55 640 658
EAE9::A55 640 659
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EAE9::A55 640 699
EAE9::A55 640 700
EAE9::A55 640 701
EAE9::A55 640 702
EAE9::A55 640 703
EAE9::A55 640 704
EAE9::A55 640 705

LOADING POINT MOVEMENT ROUTINES. 29-MAR-84 08:16 PAGE 94

;MOVE RESULT TO FAC
;MOVER: LDA RESHO
STA FACHO
LDA RESMOH
LDA RESMO
LDA RESLO
LDA FACLO
JMP NORMAL
;MOVE MEMORY INTO FAC (UNPACKED).
;MOVFM: STY INDEX1
STY INDEX1+1
LDY #3+1
LDA (INDEX1),Y
STY FACLO
DEY
LDA (INDEX1),Y
STY FACMO
DEY
LDA (INDEX1),Y
STY FACMOH
DEY
LDA (INDEX1),Y
STY FACSGN
ORA #200
STY FACHO
DEY
LDA (INDEX1),Y
STY FACEXP
STY FACOV
RTS
;MOVE NUMBER FROM FAC TO MEMORY.
MOV2F: LDY #TEMPF2
LDY #TEMPF1
LDY #0
MOVMF: MOVMF
FORPNT: FORPNT+1
ROUND: ROUND
INDEX1: INDEX1+1
FACLO: FACLO
(INDEX): (INDEX),Y
FACMO: FACMO
(INDEX): (INDEX),Y
FACMOH: FACMOH
(INDEX): (INDEX),Y
FACSGN: FACSGN
#37F: #37F
FACHO: FACHO
(INDEX): (INDEX),Y

;MOVE LO AND SGN.
;ALL DONE.

;LEAVE SWITCHES SET ON EXP.

;ALWAYS BRANCHES.

;INCLUDE SIGN IN HO. ORA #2177

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"DTCA2DOC-007-095.PICT" 85 KB 2001-03-26 dpi: 250h x 250v pix: 1922h x 2123v

"DTCA2DOC-007-096.PICT" 85 KB 2001-03-26 dpi: 250h x 250v pix: 1967h x 2305v

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;GET ZERO IF EQUAL.

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;A PART OF SIGN SETS ACCA UP-