This file can be downloaded as UNPLT-31.BAS from ResearchGate.

This formatted version is simply because RG has no online viewer for .BAS files.

This is written in Apple II Basic. Earlier versions were for the Commodore Pet.

https://archive.org/details/Apple_II_Basic_Programming_Manual_1978_Apple

```
10      REM****************
20      REM*              *
30      REM*    UNPLOT     *
40      REM*              *
50      REM****************
60      REM
70      REM PHILIP SARGENT
80      REM
90      REM  UNPLT#31 27 OCTOBER 1982
100     REM
110     REM VERSIONS 1-16 FOR PET.
120     REM
130     HOME:INVERSE:PRINT:PRINT
140     PRINT"HI THERE"
150     PRINT
160     PRINT"THIS IS FREDDIE,"
170     PRINT
180     PRINT"YOUR DESK-TOP COMPUTER,"
190     PRINT
200     PRINT"AND I'M FEELING JUST GREAT, GUYS,"
210     PRINT
220     PRINT"AND I JUST KNOW I'M GOING TO GET"
230     PRINT
240     PRINT"A BUNDLE OF KICKS OUT OF ANY GRAPH"
250     PRINT
260     PRINT"YOU CARE TO RUN THRU ME"
270     PRINT
280     FORI=1TO2500       :NEXT:HOME
290     PRINT:PRINT:PRINT
300     PRINT"LET'S GET WITH IT GANG!"
310     NORMAL
320     DIMXP(800  ),YP(800   ),XB(800   ),YB(800   )
330     DIML(800   )
340     E$=CHR$(4):REMCNTRL/D
350     C$=","
360     FORI=1TO100 0     :NEXT:HOME
370     PRINT:PRINT:PRINT
380     PRINT"DATA FROM DISC OR TABLET ?"
390     PRINT:PRINT"(ANSWER D OR T)"
400     GETF2$
410     IFF2$="D"THEN1960
420     IFF2$<>"T"THEN390
430     HOME
440     PRINT:PRINT:PRINT
450     PRINT"IF YOU WISH TO PROCESS THE DATA"
460     PRINT:PRINT"RATHER THAN MERELY SCALE IT,"
470     PRINT:PRINT"THEN INSERT A BIT OF PROGRAM"
480     PRINT:PRINT"BETWEEN LINES 600 0     AND 700    0    ,"
490     PRINT:PRINT"THE UNSCALED POINTS ARE XP & YP"
500     PRINT:PRINT"AND ARE RETURNED AS XB & YB"
510     GOSUB4090
520     REM INITIALISE TABLET
530     PRINTE$
540     PRINTCHR$(4);"PR#5"
550     PRINT"TEXT 1,SCALE 1,XOFF 1536,YOFF 1536,F,BEFORE,P,C"
560     PRINTE$;"PR#0     "
570     HOME:PRINT:PRINT:PRINT
```

```
580   INPUT"TITLE: ";T$
590   PRINT:PRINT
600   PRINT"IS THE X-AXIS LOGARITHMIC ?"
610   PRINT:PRINT"(ANSWER Y OR N)"
620   GETQ$:IFQ$=""THEN620
630   IFQ$="Y"THEN660
640   IFQ$="N"THEN670
650   GOTO610
660   L1=1:GOTO680
670   L1=0  :GOTO680
680   PRINT:PRINT"IS THE Y-AXIS LOGARITHMIC ?"
690   PRINT:PRINT"(ANSWER Y OR N)
700   GETQ$:IFQ$=""THEN700
710   IFQ$="Y"THEN740
720   IFQ$="N"THEN750
730   GOTO690
740   L2=1:GOTO760
750   L2=0  :GOTO760
760   PRINT:PRINT
770   INPUT"X-AXIS LIMITS ON PLOT: ";XL,XH
780   PRINT
790   IFL1=0      THEN850
800   IFXL=0      THEN830
810   IFXH=0      THEN830
820   GOTO850
830   PRINT"LOG SCALE - NO ZEROS PLEASE."
840   PRINT:GOTO770
850   INPUT"Y-AXIS LIMITS ON PLOT: ";YL,YH
860   IFL2=0      THEN920
870   IFYL=0      THEN900
880   IFYH=0      THEN900
890   GOTO920
900   PRINT:PRINT"LOG SCALE - NO ZEROS PLEASE."
910   PRINT:GOTO850
920   PRINT:PRINT
930   INPUT"SCALE MULTIPLIER FOR X ";BX
940   PRINT
950   INPUT"SCALE MULTIPLIER FOR Y ";BY
960   GOSUB4090
970   HOME:PRINT:PRINT
980   PRINT"DO YOU WANT TO VERIFY EACH POINT"
990   PRINT:PRINT"BY PRESSING THE SPACE-BAR ?"
1000  PRINT:PRINT"(ANSWER Y OR N)"
1010  GETW$
1020  IFW$="N"THEN10    50
1030  IFW$<>"Y"THEN100  0
1040  F1$="T"
1050  HOME
1060  PRINT:PRINT"SET X-ORIGIN ON TABLET"
1070  GOSUB4390
1080  X0    =ZX:Y1=ZY
1090  PRINT:PRINT"SET X-AXIS LIMIT ON TABLET"
1100  GOSUB4390
1110  XMAX=ZX:YCHK=ZY
1120  PRINT:PRINT"SET Y-ORIGIN ON TABLET"
1130  GOSUB4390
1140  X1=ZX:Y0    =ZY
1150  PRINT:PRINT"SET Y-AXIS LIMIT ON TABLET"
1160  GOSUB4390
1170  YMAX=ZY:XCHK=ZX
1180  E1=YMAX-Y0  :E2=X1-XCHK
1190  E3=YCHK-Y1:E4=XMAX-X0
1200  IFE2=0      THEN1230
1210  REM ?"E2,2%E4 ";E2,E4*0 .0    2
```

```
1220  IFABS(E2)>ABS(0  .0    2*E4)THEN1270
1230  IFE3=0       THEN1470
1240  REM ?"E3,2%E1 ";E3,E1*0 .0     2
1250  IFABS(E3)>ABS(0   .0    2*E1)THEN1370
1260  GOTO1470
1270  HOME:INVERSE:PRINT:PRINT:PRINT
1280  PRINT"LIFE,"
1290  FORI=1TO750 :NEXT
1300  PRINT:PRINT:PRINT"DON'T TALK TO ME ABOUT LIFE..."
1310  FORI=1TO200 0     :NEXT:HOME:NORMAL
1320  PRINT:PRINT:PRINT"Y-AXIS IS TILTED MORE THAN"
1330  PRINT:PRINT"2% OF THE X-AXIS"
1340  PRINT:PRINT"SET AXES AGAIN.":PRINT:PRINT
1350  GOSUB4090
1360  GOTO1050
1370  HOME:INVERSE:PRINT:PRINT:PRINT
1380  PRINT"LIFE,"
1390  FORI=1TO750 :NEXT
1400  PRINT:PRINT:PRINT"DON'T TALK TO ME ABOUT LIFE..."
1410  FORI=1TO200 0     :NEXT:HOME:NORMAL
1420  PRINT:PRINT:PRINT"X-AXIS IS TILTED MORE THAN"
1430  PRINT:PRINT"2% OF THE Y-AXIS"
1440  PRINT:PRINT"SET AXES AGAIN.":PRINT:PRINT
1450  GOSUB4090
1460  GOTO1050
1470  INVERSE:HOME:PRINT:PRINT
1480  PRINT"YYYYUUMMMM..."
1490  FORI=1TO100 0     :NEXT:NORMAL
1500  HOME
1510  XS=(XH-XL)/E4:YS=(YH-YL)/E1
1520  IFL1=0       THEN1540
1530  K1=LOG(XH/XL)/E4
1540  IFL2=0       THEN1560
1550  K2=LOG(YH/YL)/E1
1560  PRINT:PRINT:PRINT"GIVE AN INTEGER (1-6) TO BE USED"
1570  PRINT:PRINT"TO SET THE PLOTTING SYMBOL
1580  PRINT:PRINT"(THIS CAN BE CHANGED AT ANY TIME)"
1590  PRINT:PRINT": ":GETL
1600  L=INT(L)
1610  IFL>6THEN1590
1620  IFL<1THEN1590
1630  GOSUB4200    :REMGETSMENU
1640  HOME:PRINT:PRINT
1650  PRINT"IF YOUR DATA POINTS DON'T MAKE SENSE,"
1660  PRINT:PRINT"TYPE 'R' AND START AGAIN."
1670  PRINT:PRINT:PRINT"TO REGAIN MENU OF AVAILABLE KEYSTROKES,"
1680  PRINT:PRINT"TYPE  H"
1690  GOSUB4090
1700  HOME:PRINT:PRINT:PRINT
1710  PRINT"ENTER POINTS WITH THE 'PEN' ON"
1720  PRINT:PRINT"THE TABLET"
1730  IFF1$="T"THENPRINT:PRINT"PRESS THE SPACE-BAR AFTER EACH POINT"
1735  IFF4$<>"T"THENJK=1
1740  J=JK
1750  GOSUB4390    :REMGETSPOINTFROMTABLET
1760  RX=ZX-X0
1770  RY=ZY-Y0
1780  IFL1>=1THEN1800
1790  XP=RX*XS+XL:GOTO1810
1800  XP=EXP(RX*K1)*XL
1810  IFL2>=1THEN1830
1820  YP=RY*YS+YL:GOTO1840
1830  YP=EXP(RY*K2)*YL
1840  XB=XP*BX:YB=YP*BY
```

```
1850  GOSUB6000
1860  XP(J)=XP:XB(J)=XB
1870  YP(J)=YP:YB(J)=YB
1880  L(J)=L
1890  PRINTJ;"  ";XP;"  ";YP"  ";L
1900  JT=J
1910  J=J+1
1920  GOTO1750
1930  REM
1940  REM-------------------------------
1950  REM
1960  REM READ DATA FROM DISC
1970  REM
1980  PRINT
1990  PRINT:INPUT"NAME OF DATA FILE: ";N2$
2000  GOSUB4090
2010  PRINTE$
2020  PRINTE$;"OPEN ";N2$
2030  PRINTE$;"READ ";N2$
2040  INPUTT$
2050  INPUTBX:INPUTBY
2060  INPUTJT
2070  FORJ=1TOJT
2080  INPUTJ,L(J),XP(J),YP(J),XB(J),YB(J)
2090  NEXTJ
2100  PRINTE$;"CLOSE ";N2$
2110  HOME:PRINT:PRINT:PRINT
2120  PRINT"DATA FILE ";N2$;" READ IN OK."
2125  T$=N2$
2130  REM
2140  REM END OF DISC READ
2150  REM
2160  REM-------------------------------
2170  REM
2180  REM PROCESSING BIT
2190  REM
2200  REM
2210  GOSUB5320   :REMSUMMARY
2220  GOSUB4090   :REMWAIT
2230  GOSUB2640   :REMPRINTOUT
2240  GOSUB4780   :REMRESCALE
2250  GOSUB5320   :REMSUMMARY
2260  GOSUB4090   :REMWAIT
2280  GOSUB3100   :REMDISCSAVE
2290  GOSUB4090   :REMWAIT
2295  GOSUB3410   :REMPLOTOUT
2300  REM-------------------------------
2310  REM
2320  REM WINDUP
2330  REM
2340  HOME:PRINT:PRINT
2350  PRINT"ANOTHER SET OF DATA ?"
2360  PRINT:PRINT"(ANSWER Y OR N)
2370  GETW$:IFW$=""THEN2370
2380  IFW$="N"THEN2490
2390  IFW$<>"Y"THEN2360
2400  PRINT:PRINT:PRINT"DATA FROM DISC OR TABLET ?"
2410  PRINT:PRINT"(ANSWER D OR T)":PRINT:GETW$
2420  IFW$="D"THEN1990
2430  IFW$<>"T"THEN2410
2440  PRINT:PRINT:PRINT"SAME PLOT ?"
2450  GETW$:IFW$=""THEN2450
2460  IFW$<>"Y"THEN570
2470  PRINT:INPUT"TITLE: ";T$
```

```
2480  PRINT:GOTO1470
2490  HOME:PRINT:PRINT:PRINT
2500  PRINT"DON'T FORGET TO UNSTICK YOUR PLOT"
2510  PRINT:PRINT"AND TO CLEAN THE TABLET:"
2520  PRINT:PRINT"ETHANOL OR PROPAN-2-OL IS OK,"
2530  PRINT:PRINT"BUT DON'T USE ACETONE."
2540  INVERSE
2550  PRINT:PRINT:PRINT"THANKYOU FOR YOUR CUSTOM,"
2560  PRINT:PRINT"HAVE A NICE DAY NOW."
2570  NORMAL
2580  END
2590  REM
2600  REM------------------------------
2610  REM
2620  REM PRINT OUT RESULTS
2630  REM
2640  PRINT:PRINT"PRINT OUT RESULTS"
2650  A1$="PLOT X"
2660  A2$="PLOT Y"
2670  A3$="NEW X"
2680  A4$="NEW Y"
2690  A5$="     "
2700  PRINT:PRINT"(ANSWER Y OR N)":GETW$
2710  IFW$="Y"THEN2740
2720  IFW$<>"N"THEN2700
2730  RETURN
2740  PRINT:PRINT:PRINT"HARDCOPY OR SCREEN ?"
2750  PRINT:PRINT"(ANSWER H OR S) ":GETW$
2760  IFW$="S"THEN2950
2770  IFW$<>"H"THEN2750
2780  HOME:PRINTT$
2790  PRINTE$;"PR#1"
2800  PRINT:PRINTT$
2810  PRINT:PRINT"X MULTIPLIER = ";BX
2820  PRINT:PRINT"Y MULTIPLIER = ";BY
2830  PRINT:LIST600    1-6999
2840  PRINT:PRINT"    ",A1$;A5$,A2$;A5$,A3$;A5$,A4$
2850  PRINT
2860  FORJ=1TOJT
2870  J$=STR$(J)
2880  IFJ<10     THENJ$=J$+" "
2890  IFJ<100    THENJ$=J$+" "
2900  J$=J$+" "+STR$(L(J))+" "
2910  PRINTJ$,XP(J),YP(J),XB(J),YB(J)
2920  NEXTJ
2930  PRINTE$;"PR#0     "
2940  RETURN
2950  PRINT:PRINT"    ",A1$;A5$,A2$;A5$,A3$;A5$,A4$
2960  PRINT
2970  FORJ=1TOJT
2980  J$=STR$(J):IFJ<10 THENJ$=J$+" "
2990  IFJ<100    THENJ$=J$+" "
3000  PRINTJ$;XP(J);" ";YP(J);" ";XB(J);" ";YB(J);" ";L(J)
3010  NEXTJ
3020  RETURN
3030  REM
3040  REM END OF DATA PRINTOUT
3050  REM
3060  REM------------------------------
3070  REM
3080  REM BEGIN DISC SAVE
3090  REM
3100  PRINT:PRINT:PRINT"SAVE DATA ON DISC ?"
3110  PRINT:PRINT"(ANSWER Y OR N)":GETW$
```

```
3120   IFW$="Y"THEN3150
3130   IFW$<>"N"THEN3110
3140   RETURN
3150   HOME:PRINT:PRINTT$:PRINT
3160   PRINT:INPUT"NAME FOR NEW DATA FILE: ";N$
3170   PRINT:PRINT"COPY NOW ?"
3180   GOSUB40    90
3190   PRINTE$
3200   PRINTE$;"OPEN ";N$
3210   PRINTE$;"DELETE ";N$
3220   PRINTE$;"OPEN ";N$
3230   PRINTE$;"WRITE ";N$
3240   PRINTT$
3250   PRINTBX:PRINTBY
3260   PRINTJT
3270   FORJ=1TOJT
3280   PRINTJ;C$;L(J);C$;XP(J);C$;YP(J);C$;XB(J);C$;YB(J)
3290   NEXTJ
3300   PRINTE$;"CLOSE ";N$
3310   PRINTE$;"LOCK ";N$
3320   PRINT:PRINTN$;" NOW FILED & LOCKED."
3330   RETURN
3340   REM
3350   REM END OF DISC SAVE
3360   REM
3370   REM------------------------------
3380   REM
3390   REM PLOTOUT DATA
3400   REM
3410   PRINT:PRINT:PRINT
3420   PRINT"PLOT SCALED/PROCESSED DATA ON DIGIPLOT ?"
3430   PRINT:PRINT"(ANSWER Y OR N) ":GETW$
3440   IFW$="N"THENRETURN
3450   IFW$<>"Y"THEN3430
3460   IFF3$<>"T"THEN3550
3470   PRINT:PRINT:PRINT"SAME AXES AS BEFORE ?"
3480   PRINT:PRINT"(ANSWER Y OR N)":PRINT:GETW$
3490   IFW$="Y"THEN3930
3500   IFW$<>"N"THEN3480
3510   INVERSE:PRINT:PRINT:PRINT"(NOTE,"
3520   PRINT:PRINT" CAN ONLY PLOT LINEAR/LINEAR AXES AS YET,"
3530   PRINT:HTAB12:PRINT"SORRY.)"
3540   NORMAL
3550   PRINT
3560   PRINT:INPUT"LIMITS FOR X-AXIS: ";C1,C2
3570   PRINT:INPUT"LIMITS FOR Y-AXIS: ";Y1,Y2
3580   PRINT:PRINT:PRINT"PLOT AXES ?"
3590   PRINT:PRINT"(ANSWER Y OR N)":GETW$
3600   IFW$="N"THEN3930
3610   IFW$<>"Y"THEN3590
3620   PRINT:PRINT"X-LENGTH = ";C2-C1
3630   PRINT:INPUT"NUMBER OF X-AXIS SUBDIVISIONS: ";KH
3640   PRINT:PRINT:PRINT"Y-LENGTH = ";Y2-Y1
3650   PRINT:INPUT"NUMBER OF Y-AXIS SUBDIVISIONS: ";KV
3660   PRINT:PRINT:INPUT"TITLE FOR X AXIS: ";AX$
3670   PRINT:INPUT"TITLE FOR Y AXIS: ";AY$
3680   PRINT:PRINT:PRINTT$
3690   PRINT:INPUT"OVERALL TITLE: ";S$
3700   GOSUB9700  :X=120      :Y=120      :GOSUB9100
3710   X=1:Y=3200  /KH:R=KH:GOSUB8500
3720   TEXT
3730   X=0   :Y=2200     /KV:R=KV:GOSUB8500
3740   GOSUB9700  :X=120      :Y=120      :GOSUB9100
3750   X=0   :Y=2200     /KV:R=KV:GOSUB8500
```

```
3760   X=1:Y=3200  /KH:R=KH:GOSUB8500
3770   X$=S$:X9$="S":Y=7:GOSUB800     0
3780   X9$="Q":Y=0 :GOSUB800    0
3790   X=100 0       :Y=2355:GOSUB9100 :GOSUB9400
3800   X$=AX$:X9$="S":Y=5:GOSUB800    0
3810   X9$="Q":Y=0 :GOSUB800    0
3820   X=100 0       :Y=10 :GOSUB9100 :GOSUB9400  :X9$="S":Y=3:GOSUB800    0
3830   X$=STR$(C1):X=120 :Y=75:GOSUB9100   :GOSUB9400
3840   X$=STR$(C2):X=3260        :GOSUB9100  :GOSUB9400
3850   X9$="Q":Y=1:GOSUB800    0
3860   X=60  :Y=100      0     :GOSUB9100
3870   X9$="S":Y=5:GOSUB800    0
3880   X$=AY$:GOSUB9400
3890   X9$="S":Y=3:GOSUB800    0
3900   X$=STR$(Y1):X=90  :Y=60 :GOSUB9100  :GOSUB9400
3910   X$=STR$(Y2):Y=2260        :GOSUB9100  :GOSUB9400
3920   F3$="T"
3930   HOME:PRINT:PRINT
3940   PRINT:PRINT"PLOT POINTS NOW ?":GOSUB40     90
3950   DEFFNSX(Z)=(3200  *(Z-C1)/(C2-C1)+120     )
3960   DEFFNSY(Z)=(2200  *(Z-Y1)/(Y2-Y1)+120     )
3961   PRINT:PRINT"PLEASE GIVE SIZE FOR MARKS,"
3962   PRINT:INPUT"RANGE 0     -15 (DEFAULT 5): ";MK
3963   IFMK<0     THEN3962
3964   IFMK>15THEN3962
3970   X9$="S":Y=MK:GOSUB800  0
3980   FORJ=1TOJT
3990   X=FNSX(XB(J)):Y=FNSY(YB(J))
4000   GOSUB9100
4010   Y=L(J):X9$="N"
4020   GOSUB800    0
4030   NEXTJ
4040   GOSUB9700
4050   RETURN
4060   REM------------------------
4070   REM
4080   REM WAIT ROUTINE
4090   INVERSE
4100   VTAB23:HTAB37:PRINT"GO ?"
4110   GETW$:IFW$=""THEN4110
4120   VTAB23:HTAB37:PRINT" OK "
4130   NORMAL
4140   RETURN
4150   REM
4160   REM------------------------------
4170   REM
4180   REM MENU
4190   REM
4200   HOME:PRINT:PRINT"AFTER ANY POINT TYPE:"
4210   PRINT:PRINT"S  START AGAIN FROM SCRATCH"
4220   PRINT:PRINT"R  RESET PLOT AXES AND RE-ENTER POINTS"
4230   PRINT:PRINT"T  BEGIN ALL DATA POINTS AGAIN"
4240   PRINT:PRINT"D  DELETE LAST DATA POINT,"
4250   PRINT"   (DD FOR LAST TWO, DDD FOR"
4260   PRINT"    LAST THREE, ETC.)"
4270   PRINT:PRINT"C  CHANGE POINT LABEL STRING"
4280   PRINT:PRINT"Q  QUIT"
4285   PRINT:PRINT"N NEXT GRAPH"
4290   PRINT:PRINT"E  END OF DATA"
4300   GOSUB40     90
4310   RETURN
4320   REM
4330   REM END OF MENU
4340   REM
```

```
4350   REM------------------
4360   REM
4370   REM GETS POINT FROM TABLET
4380   REM
4390   PRINTE$:GOTO4520
4400   A=PEEK(-16384)
4410   POKE-16368,0
4420   REM GETS KEYBOARD CHARACTER
4430   IFA=209THEN2340    :REMQ
4440   IFA=210    THEN1050     :REMR
4450   IFA=211THEN640    :REMS
4460   IFA=212THEN1740    :REMT
4470   IFA=195THEN4660    :REMC
4480   IFA=196THEN4710    :REMD
4490   IFA=197THEN2230    :REME
4495   IFA=206THEN4725:REMN
4500   IFA=200    THENGOSUB4200    :REMH
4510   PRINT"NON MENU CHARACTER"
4520   PRINTE$;"IN#5":INPUT"";ZX,ZY,Z:PRINTE$;"IN#0   "
4530   POKE37,22
4540   IFZ<0 THEN4400
4550   Z=ABS(Z)
4560   IFZ>10     THENPRINT"PEN OFF SCALE"
4570   IFZ>=10    THENZ=Z-10  :REMGETSONESDIGIT
4580   IFZ<>2THEN4520
4590   PRINTE$;"IN#5":INPUT"";ZX,ZY,Z:PRINTE$;"IN#0   "
4600   IFZ<>0     THEN4590
4610   IFF1$="T"THENGETW$
4620   RETURN
4630   REM
4640   REM END OF TABLET GET
4650   REM
4660   PRINT:PRINT:PRINT"SYMBOL INTEGER (1-6): ":GETL
4670   L=INT(L)
4680   IFL>6THEN4660
4690   IFL<1THEN4660
4700   PRINTE$:GOTO4520
4710   J=J-1:PRINT"LAST POINT DELETED"
4720   GOTO1750
4725   JK=J:F4$="T":GOTO590
4730   REM
4740   REM-----------------------------
4750   REM
4760   REM RESCALE/REPROCESS
4770   REM
4780   PRINT:PRINT:PRINT"DO YOU WISH TO RESCALE OR TO"
4790   PRINT:PRINT"REPROCESS THE DATA ?"
4800   PRINT:PRINT"(ANSWER Y OR N) ":GETW$
4810   IFW$="N"THENRETURN
4820   IFW$<>"Y"THEN4800
4830   HOME:PRINT:PRINT:PRINT
4840   PRINT"X MAGNIFICATION IS/WAS ";BX
4850   PRINT:PRINT"Y MAGNIFICATION IS/WAS ";BY
4860   PRINT:INPUT"NEW X MAG.: ";BX
4870   PRINT:INPUT"NEW Y MAG.: ";BY
4880   PRINT:PRINT:PRINT"USING CODE IN LINES 6001-6999:"
4890   PRINT:LIST600    1-6999
4900   GOSUB40    90
4910   PRINT:PRINT:PRINT"CHANGE SYMBOL INTEGERS ?"
4920   PRINT:PRINT"(ANSWER Y OR N) ":GETF4$
4930   IFF4$="Y"THEN4950
4940   IFF4$<>"N"THEN4920
4950   GOSUB40    90
4960   FORJ=1TOJT
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```
4970  XP=XP(J):YP=YP(J)
4980  XB=XP*BX:YB=YP*BY
4990  GOSUB600    0
500   0     XB(J)=XB:YB(J)=YB
5010  IFF4$="N"THEN50    70
5020  PRINTJ;" SYMBOL INTEGER WAS ";L(J);" NOW: "
5030  GETL:L=INT(L)
5040  IFL>6THEN50 20     :
5050  IFL<1THEN50 20
5060  L(J)=L
5070  NEXTJ
5080  PRINT:PRINT"DATA NOW RESCALED."
5090  GOSUB2640   :REMPRINTOUT
5100  RETURN
5110  REM
5120  REM END OF RESCALE/REPROCESS
5130  REM
5140  REM-------------------------------
5150  REM
5160  REM RMXMN
5170  REM
5180  X6=XB(1):Y6=YB(1)
5190  X7=X6:Y7=Y6
5200  FORJ=1TOJT
5210  IFX6>XB(J)THENX6=XB(J)
5220  IFY6>YB(J)THENY6=YB(J)
5230  IFX7<XB(J)THENX7=XB(J)
5240  IFY7<YB(J)THENY7=YB(J)
5250  NEXT
5260  RETURN
5270  REM
5280  REM-------------------------------
5290  REM
5300  REMSUMMARY
5310  REM
5320  HOME:PRINT:PRINT:PRINT
5330  PRINT"TITLE = ";T$
5340  PRINT:PRINT"NUMBER OF DATA POINTS = ";JT
5350  PRINT:PRINT"X MULTIPLIER = ";BX
5360  PRINT:PRINT"Y MULTIPLIER = ";BY
5370  GOSUB5180   :DATALIMITS
5380  PRINT:PRINT:PRINT
5390  PRINT:PRINT"MAX X VALUE = ";X7:PRINT:PRINT"MIN X VALUE = ";X6
5400  PRINT:PRINT:PRINT"MAX Y VALUE = ";Y7:PRINT:PRINT"MIN Y VALUE = ";Y6
5410  RETURN
5420  REM
5430  REMEND OF SUMMARY
5440  REM
6000  REM------------------------
6001  XB=XP*BX
6002  YB=YP*BY
7000  RETURN
8000  PR#2:PRINTX9$;INT(Y):GOTO9800
8500  PR#2:PRINT"X";INT(X);"              ,";INT(Y)",";INT(R)
8510  GOTO9800
9000  PR#2:PRINT"D"INT(X);",            ";INT(Y):GOTO9800
9100  PR#2:PRINT"M"INT(X);",            ";INT(Y):GOTO9800
9200  PR#2:PRINT"I";INT(X);"            ,";INT(Y):GOTO9800
9300  PR#2:PRINT"R";INT(X);"            ,";INT(Y):GOTO9800
9400  PR#2:PRINT"P";X$
9700  PR#2:PRINT"H"
9800  PR#0  :RETURN
9990  END
```