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1 ' PROGRAM      G R A F
2 '
3 ' slova ž,č i ě dobijaju se pritiskom na dirku z,x i c, zajedno sa dirkom
  CONTROL
4 '
10 SYMBOL AFTER 212:SYMBOL 212,0,254,198,198,198,254,0,0:SYMBOL 213,20,8,60,102
,96,102,60,0:SYMBOL 214,4,8,60,102,96,102,60,0:SYMBOL 215,36,24,126,76,24,48,126
,0
20 KEY DEF 71,1,122,90,215:KEY DEF 63,1,120,88,214:KEY DEF 62,1,99,67,213
30 KEY 138,"cls:run 140"+CHR$(13)
40 '
50 MODE 1:LOCATE 16,6:PRINT"G R A F":LOCATE 6,10:PRINT"Program koji vam omogućav
a da ":LOCATE 5,13:PRINT"1) Prikazete funkciju datu u analitičkom obliku":LOCA
TE 5,16:PRINT"2) Prikazete eksperimentalne podatke unete preko tastature"
60 LOCATE 10,24:PRINT"pritisnite neku dirku"
80 CALL &BB18
90 MODE 1:LOCATE 6,12:PRINT "eksperimentalni podaci      (e)":LOCATE 17,14:PRINT"i
li":LOCATE 6,16:PRINT"analitički oblik funkcije (a)"
100 a$=INKEY$:IF a$="e" THEN eksp=1:GOTO 160 ELSE IF a$="a" THEN 120
110 GOTO 100
120 MODE 1:LOCATE 1,10:PRINT"unesite funkciju u red 140 i pritisnite":PRINT"tač
ku na maloj tastaturi .":PRINT:PRINT:PRINT:LIST 140
130 '
140 DEF FNf(x)=1/(4-x^2)

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150 '
160 MODE 2:INK 0,0:INK 1,26:PAPER 0:PEN 1:BORDER 0
170 WINDOW #1,1,80,25:PEN #1,0:PAPER #1,1
180 '
190 ON ERROR GOTO 880
200 DEG
210 DIM tx(400),ty(400):bx=0:by=0
220 PRINT CHR$(23)+CHR$(3)
230 '
240 CLS #1:PRINT CHR$(7)
250 LOCATE #1,14,1:INPUT #1,"xmin= ";xlevo:LOCATE #1,50,1:INPUT #1,"xmax= ";xdes
no
260 CLS
270 ORIGIN 0,0
280 PLOT 70,50:DRAW 500,0:DRAW 0,300:DRAW -500,0:DRAW 0,-300
290 rx=0:start=xlevo:kraj=xdesno:fx=1:GOSUB 5000
300 kx=korak:pkx=potkorak
310 x1=start.skale:xd=kraj.skale:rx=500/(xd-x1):st=(xd-x1)/500
320 '
330 IF eksp=1 THEN 440
340 CLS #1:PRINT CHR$(7):LOCATE #1,26,1:PRINT#1,"ogranicenja za y ? (d/n)"
350 a$=INKEY$:IF a$="" THEN 350
360 IF a$="d" THEN 440
370 '
380 ym=FNf(x1):yv=FNf(xd)
390 x=x1
400 y=FNf(x):ym=MIN(ym,y):yv=MAX(yv,y)
410 x=x+(xd-x1)/100
420 IF x<=xd THEN 400
430 GOTO 450
440 CLS #1:PRINT CHR$(7):LOCATE #1,14,1:INPUT #1,"ymin= ";ym:LOCATE #1,50,1:INPU
T #1,"ymax= ";yv
450 GOSUB 8000
460 IF eksp=1 THEN 690
470 CLS #1:PRINT CHR$(7):LOCATE #1,34,1:PRINT #1,"nule? (d/n)"
480 a$=INKEY$:IF a$="" THEN 480
490 IF a$="d" THEN nule=1 ELSE nule=0
500 '
510 x=x1
520 iks=x*rx
530 y=FNf(x):ipsilon=y*ry
540 IF nule=1 AND ABS(y)<10*korak THEN GOSUB 12000
550 IF y>yg OR y<yd THEN 570
560 PLOT iks,ipsilon
570 x=x+st
580 IF x<=xd THEN 520
590 '
640 CLS #1:PRINT CHR$(7):LOCATE #1,19,1:PRINT#1,"nova funkcija ili nove granice
za x (f/x)"
650 a$=INKEY$:IF a$="" THEN GOTO 650
660 IF a$="x" THEN RUN 140 ELSE IF a$="f" THEN 120
670 STOP
680 '
690 CLS #1:PRINT CHR$(7):LOCATE #1,25,1:PRINT#1,"parovi x-y, ili samo y (p/y) ?"
700 a$=INKEY$:IF a$="" THEN GOTO 700
710 IF a$="y" THEN 820
720 '
730 CLS #1:LOCATE #1,15,1:INPUT #1,"x= ";x:LOCATE #1,50,1:INPUT #1,"y= ";y
740 IF y<>9999 THEN GOSUB 9000:GOTO 730
750 '
790 '
800 CLS #1:PRINT CHR$(7):LOCATE #1,28,1:PRINT #1,"pritisnite neku dirku":CALL &B
B18:RUN 90
810 '
820 CLS #1:PRINT CHR$(7):LOCATE #1,5,1:INPUT #1,"startna vrednost za x ";x:LOCAT
E #1,50,1:INPUT #1,"korak za x ";dx
830 CLS #1:LOCATE #1,36,1:INPUT #1," y= ";y
840 IF y<>9999 THEN GOSUB 9000:x=x+dx:GOTO 830
850 GOTO 800

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860 '
870 '
880 RESUME NEXT
890 '
900 '
1000 logbroj=LOG10(ABS(broj))
1010 logbroj$=STR$(logbroj)
1020 IF logbroj<0 THEN inlb=INT(logbroj):pv=logbroj-inlb:osn.korak=10^pv:red.vel
.=10^inlb:RETURN
1030 n=INSTR(logbroj$,".")
1040 IF n=0 THEN osn.korak=10:red.vel.=10^(logbroj-1):RETURN
1050 red.vel.=10^VAL(LEFT$(logbroj$,n-1))
1060 osn.korak=10^VAL("0."+RIGHT$(logbroj$,LEN(logbroj$)-n))
1070 RETURN
1080 '
1090 '
1100 '
2000 IF osn.korak<=4 THEN osn.korak=0.5:potkorak=0.1*red.vel.:md=5
2010 IF osn.korak<=7 AND osn.korak>4 THEN osn.korak=1:potkorak=0.2*red.vel.:md=5
2020 IF osn.korak>7 THEN osn.korak=2:potkorak=0.5*red.vel.:md=4
2030 korak=osn.korak*red.vel.
2040 RETURN
2050 '
2060 '
2070 '
3000 f=1
3010 broj=z:GOSUB 1000
3020 start.skale=-INT(osn.korak)*red.vel.
3030 WHILE (start.skale-z)>0
3040   start.skale=start.skale-korak
3050 WEND
3060 RETURN
3070 '
3080 '
4000 f=0
4010 broj=z:GOSUB 1000
4020 kraj.skale=INT(osn.korak)*red.vel.
4030 IF kraj.skale>=z THEN RETURN
4040 kraj.skale=kraj.skale+korak:GOTO 4030
4050 '
4060 '
4070 '
5000 broj=kraj-start
5010 GOSUB 1000
5020 GOSUB 2000
5030 IF ABS(start)>ABS(kraj) THEN z=start:GOSUB 3000 ELSE z=kraj:GOSUB 4000
5040 IF f=0 THEN 5150
5050 x=start.skale
5060 a=0
5070 WHILE (x-kraj)<=0.0001
5080 IF a MOD md=0 THEN ix=1:vis=0 ELSE ix=0:vis=1
5090 IF rx<>0 AND fxy=1 THEN GOSUB 6000 ELSE IF ry<>0 THEN GOSUB 7000
5100 x=x+korak
5110 a=a+1
5120 WEND
5130 kraj.skale=x
5140 RETURN
5150 x=kraj.skale
5160 WHILE (x-(start+korak))>0.0001
5170 x=x-korak
5180 WEND
5190 start.skale=x-korak
5200 RETURN
5205 '
6000 TAG
6010 bx=bx+1:tx(bx)=x:intx=INT(x*1000+0.5)/1000
6020 PLOT x*rx,yd*ry:DRAW x*rx,10-6*vis+yd*ry
6030 MOVE x*rx-5*LEN(STR$(intx)),yd*ry-12:IF ix=1 THEN PRINT intx;
6040 TAGOFF

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6050 RETURN
6060 '
7000 by=by+1:ty(by)=x:intx=INT(x*1000+0.5)/1000
7010 TAG
7020 PLOT x1*rx,x*ry:DRAW 10-6*vis+x1*rx,x*ry
7030 MOVE x1*rx-8*LEN(STR$(intx))-10,6+x*ry: IF ix=1 THEN PRINT intx;
7040 TAGOFF
7050 RETURN
7060 '
8000 ry=0:start=ym:kraj=yv:fxxy=2:GOSUB 5000:ky=korak:pky=potkorak
8010 yd=start.skale:yg=kraj.skale:ry=300/(yg-yd)
8020 ORIGIN 70-x1*rx,50-yd*ry
8030 start=x1:kraj=xd:start.skale=x1:fxxy=1:korak=plx:GOSUB 5050
8040 start=yd:kraj=yg:start.skale=yd:fxxy=2:korak=pky:GOSUB 5050
8050 CLS #1:PRINT CHR$(7):LOCATE #1,33,1:PRINT#1,"mreza ? (d/n)"
8060 a$=INKEY$:IF a$="" THEN 8060
8070 IF a$<>"d" THEN 8130
8080 FOR i=1 TO bx
8090 FOR j=1 TO by
8100 PLOT tx(i)*rx,ty(j)*ry
8110 NEXT
8120 NEXT
8130 CLS #1:PRINT CHR$(7):LOCATE #1,34,1:PRINT#1,"ose ? (d/n)"
8140 a$=INKEY$:IF a$="" THEN 8140
8150 IF a$<>"d" THEN 8180
8160 PLOT x1*rx,0:DRAW xd*rx,0
8170 PLOT 0,yd*ry:DRAW 0,yg*ry
8180 RETURN
8190 '
9000 '
9010 TAG
9020 MOVE x*rx-3,y*ry+6:PRINT CHR$(212);
9030 TAGOFF
9040 RETURN
9050 '
12000 '
12010 CLS #1
12020 LOCATE #1,35,1:PRINT#1,"f(";x;")=0":PRINT CHR$(7):PRINT#1"pritisnite neku
dirku"
12030 CALL &BB18
12040 RETURN

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