```
10 REM **********************
20 REM *** programa hecho ***
30 REM ***                  ***
40 REM ***        by        ***
50 REM ***                  ***
60 REM ***  CESAR LOBATO    ***
70 REM **********************
80 REM
90 REM Este programa calcula las ac
elera-  ciones de masas por lagrang
e
100 DIM rez(5):ERASE rez
101 DIM masa(5),ang(5),ace(5,5),mat
riz(4,4),acele(4),ka(5,3)
102 ERASE masa,ang,ace,matriz,acele
,ka
110 DIM a(5),b(5,2),pol(4,8),c(4,2)
120 ERASE pol,a,b
130 MODE 1:CLS:DEG:WINDOW#4,1,40,22
,25:PAPER#4,3 :CLS#4
140 WINDOW#2,1,40,1,5:PAPER#2,3:CLS
#2
150 b(1,1)=302:b(2,1)=192:b(3,1)=15
6:b(4,1)=102:b(5,1)=80
160 SOUND 1,239,50,8:PRINT#2,SPC(17
);"HOLA";SPC(17);SPC(8);"Vamos a re
solver un problema";SPC(9);SPC(18);
"de";SPC(18);SPC(11);"planos inclin
ados";SPC(12);SPC(12);"maquina de A
TWOOD"
170 PRINT#4,"masas maximas 5":INPUT
#4,"cuantas masas por favor";n1
180 IF FIX(n1)<>n1 THEN CLS#4:GOTO
170
190 IF n1<=1 OR n1>5 THEN CLS#4:GOT
O 170
200 d$=CHR$(143)+CHR$(143)
210 FOR i=1 TO n1
220 a(i)=b(n1,1)*i+32*(i-1)
230 IF n1=4 THEN a(i)=a(i)+1
240 MOVE a(i),9*16:TAG:PRINT d$;:TA
GOFF
250 MOVE a(i),8*16:TAG:PRINT d$;:TA
GOFF
260 MOVE a(i),6*16:TAG:PRINT"M";i;:
TAGOFF
270 NEXT i
280 n4=0:CLS#2:CLS#4
290 na=1:GOSUB 2880
300 REM 9800 mira donde poner el cu
rsor
310 SOUND 1,150,50,6:PRINT#4,"Princ
ipio de cuerda ";CHR$(224)
320 n2=na
330 IF n2>n1 THEN m1=pol(n2-n1,6):m
2=pol(n2-n1,7):f$=CHR$(224) ELSE m1
=a(n2):m2=9*16:f$=CHR$(224)
340 MOVE m1,m2:TAG:PRINT f$;:TAGOFF
350 PRINT#2,SPC(10);"C Cambiar de o
pcion";SPC(11);SPC(10);"D Borrar";S
PC(21);SPC(10);"O eliges Opcion";
360 REM 8000 mira si pulsas O,D o C
370 GOSUB 2680
380 IF p1=2 THEN GOTO 460 ELSE IF p
1=3 THEN GOTO 530
390 na=n2+1:GOSUB 2880:nb=na
400 IF nb>n1 THEN m3=pol(nb-n1,6):m
4=pol(nb-n1,7):f2$=CHR$(224) ELSE m
3=a(nb):m4=9*16:f2$=CHR$(224)
410 IF n2>n1 THEN f1$=CHR$(231):m1=
pol(n2-n1,6):m2=pol(n2-n1,7) ELSE f
1$=CHR$(143):m1=a(n2):m2=9*16
420 REM 8100 cambia el cursor de si
tio
430 GOSUB 2710
440 n2=na:SOUND 1,239,25,7:GOTO 370
450 REM por si no hay polea que bor
rar
460 IF n4=0 THEN SOUND 1,190,25,7:S
OUND 1,280,25,7:SOUND 1,350,25,7:LO
CATE#4,1,2:PRINT#4,"NO HAY QUE BORR
AR";:GOTO 370
470 ana1=c(n4,1) : ana2=c(n4,2)
480 FOR i=1 TO 2:c(n4,i)=0:NEXT i:F
OR j=1 TO 8:pol(n4,j)=0:NEXT j
490 IF ana1>n1 THEN pol(ana1-n1,8)=
0 ELSE b(ana1,2)=0
500 IF ana2>n1 THEN pol(ana2-n1,8)=
0 ELSE b(ana2,2)=0
510 n4=n4-1:CLS#4:PRINT#4,"BORRADA"
:GOSUB 2730:GOTO 290
520 REM borro la polea y vuelvo a e
legir
530 IF n2>n1 THEN pol(n2-n1,8)=1 EL
SE b(n2,2)=1
540 IF n2>n1 THEN m1=pol(n2-n1,6):m
2=pol(n2-n1,7):f1$=CHR$(231) ELSE m
1=a(n2):m2=9*16:f1$=CHR$(143)
550 MOVE m1,m2:TAG:PRINT f1$;:TAGOF
F
560 na=1:GOSUB 2880
570 REM miro dode poner el cursor
580 SOUND 1,150,50,6:PRINT#4,"FINAL
 de cuerda ";CHR$(225);
590 n3=na
600 f1$=CHR$(225):IF n3>n1 THEN m1=
pol(n3-n1,6):m2=pol(n3-n1,7) ELSE m
1=a(n3):m2=9*16
610 MOVE m1,m2:TAG:PRINT f1$;:TAGOF
F:CLS#2
620 PRINT#2,SPC(10);"C Cambiar de o
pcion";SPC(11);SPC(10);"D Borrar";S
PC(21);SPC(10);"O eliges Opcion";
630 REM 8000 mira si pulsas O,D o C
640 GOSUB 2680
650 IF p1=2 THEN GOTO 710 ELSE IF p
1=3 THEN GOTO 750
660 na=n3+1:GOSUB 2880
670 IF na>n1 THEN m3=pol(na-n1,6):m
4=pol(na-n1,7):f2$=CHR$(225) ELSE m
3=a(na):m4=9*16:f2$=CHR$(225)
680 IF n3>n1 THEN f1$=CHR$(231):m1=
pol(n3-n1,6):m2=pol(n3-n1,7) ELSE m
1=a(n3):m2=9*16:f1$=CHR$(143)
690 REM cambio el cursor de sitio
700 GOSUB 2710:SOUND 1,239,25,7:n3=
na:GOTO 640
710 ana1=c(n4,1) : ana2=c(n4,2)
720 REM borro la entrada anterior y
 devuel el control a 140
730 IF n2>n1 THEN pol(n2-n1,8)=0 EL
SE b(n2,2)=0
740 CLS#4:SOUND 1,219,25,6:PRINT#4,
"BORRADA":GOSUB 2730:GOTO 290
750 IF n3>n1 THEN pol(n3-n1,8)=1 EL
SE b(n3,2)=1
```

```
760 REM  asigno las posiciones de l
a polea y construyo los vectores pa
ra poder  aplicar LAGRANGE
770 GOSUB 2360
780 n4=n4+1
790 GOSUB 2730
800 REM  9000 dibujar
810 GOSUB 2590
820 REM decison de fin
830 IF p5=0 THEN CLS#2:CLS#4:GOTO 2
90 ELSE IF p5=2 THEN GOTO 870
840 CLS#2:CLS#4:PRINT#4,"pulsa F pa
ra acabar";:PRINT#4,"pulsa S para s
eguir poniendo poleas";
850 e$=INKEY$
860 IF e$="f" OR e$="F" THEN GOTO 8
80 ELSE IF e$="s" OR e$="S" THEN CL
S#4:GOTO 290 ELSE GOTO 850
870 REM entrada de Masas,Angulos y
coef. de rozamiento
900 p2=0
910 FOR i=1 TO n1
920 CLS#2:CLS#4:PRINT#4,"Peso de la
 Masa";i;" en Kg";:INPUT#4,masa(i)
930 SOUND 1,239,25,6:p1=0
940 PRINT#2,SPC(6);"Si quieres que
la masa este en";SPC(4);SPC(12);"el
 Suelo pulsa S";SPC(12);SPC(12);"Ve
rtical pulsa V";SPC(24);"un Plano p
ulsa P";SPC(12);"la decision limita
 el movimiento de la M";
950 e$=INKEY$
960 IF e$="P" OR e$="p" THEN p2=p2+
1:p1=2 ELSE IF e$="V" OR e$="v" THE
N p1=1:p2=0 ELSE IF e$="S" OR e$="s
" THEN p1=4:p2=0 ELSE GOTO 950
970 IF p1=2 AND p2=2 THEN p1=3:p2=0
980 ka(i,3)=p1
990 IF p1=1 THEN ang(i)=90 ELSE IF
p1=2 OR p1=3 THEN CLS#4:INPUT#4,"An
gulo que forma el plano con el suel
o",ang(i) ELSE IF p1=4 THEN ang(i)=
0
1000 IF ang(i)>90 OR ang(i)<0 THEN
GOTO 990
1010 IF masa(i)<0 THEN GOTO 920
1020 SOUND 1,190,20,6:NEXT i
1030 GOSUB 1100
1040 GOSUB 1630
1050 GOSUB 2190
1060 CLS#2:PRINT#2,"pulsa C para Co
menzar de nuevo          pulsa R pa
ra Resultados"
1070 e$=INKEY$
1080 IF e$="C" OR e$="c" THEN GOTO
2940 ELSE IF e$="R" OR e$="r" THEN
GOTO 1050 ELSE GOTO 1070
1090 END
1100 REM Esta subrutina crea y resu
lve  un sistema de ecuaciones basad
o en el   metodo de LAGRANGE
1110 REM Construccion de las fuerza
s en el sentido del movimiento y fu
erzas perpendiculares a el
1120 DEFREAL a,f:DIM fux(5),fuy(5),
fue(4),fur(4),mes(4)
1130 ERASE fux,fuy,fue,fur,mes
1140 FOR i=1 TO n1
1150 fux(i)=masa(i)*9.8*SIN(ang(i))
1160 fuy(i)=coef(i)*masa(i)*9.8*COS
(ang(i))
1170 NEXT i
1180 REM Construimos los vectores a
ce(i)a partir de pol(1..n4,1..n1) q
ue representaran la composicion de
las coordenadas absolutas en funcio
n de las generalizadas
1190 FOR i=n4 TO 1 STEP -1
1200 FOR j=1 TO n1
1210 IF pol(i,j)<0 THEN ace(ABS(pol
(i,j)),j)=-1
1220 IF pol(i,j)>0 THEN ace(pol(i,j
),j)=1
1230 NEXT j
1240 NEXT i
1250 REM Construimos la matriz A de
l sistema de ecuaciones A.x=b
1260 FOR i=1 TO n4
1270 FOR j=1 TO n4
1280 IF i<>j THEN GOTO 1330
1290 FOR k=1 TO n1
1300 IF ace(k,i)=1 OR ace(k,i)=-1 T
HEN matriz(i,j)=matriz(i,j)+masa(k)
1310 NEXT k
1320 GOTO 1370
1330 FOR k=1 TO n1
1340 IF ace(k,i)=0 OR ace(k,j)=0 TH
EN GOTO 1360
1350 IF ace(k,i)=ace(k,j) THEN matr
iz(i,j)=matriz(i,j)+masa(k) ELSE IF
 ace(k,i)=-1*ace(k,j) THEN matriz(i
,j)=matriz(i,j)-masa(k)
1360 NEXT k
1370 NEXT j
1380 REM Constrimos el vector fuerz
a en la direccion del movimiento
1390 FOR j=1 TO n1
1400 IF ace(j,i)=1 THEN fue(i)=fue(
i)+fux(j) ELSE IF ace(j,i)=-1 THEN
fue(i)=fue(i)-fux(j)
1410 NEXT j
1420 NEXT i
1430 IF n4=1 THEN acele(1)=fue(1)/m
atriz(1,1)
1435 GOSUB 3000
1440 REM Triangularizar la matriz
1450 FOR i=1 TO n4-1
1460 FOR j=i+1 TO n4
1470 FOR k=i TO n4
1480 matriz(j,i)=matriz(j,i)-(matri
z(i,k)*(matriz(j,i)/matriz(i,i)))
1490 NEXT k
1500 fue(j)=fue(j)-(fue(i)*(matriz(
j,i)/matriz(i,i)))
1510 REM Compruebo a(i,i)<>0
1520 IF matriz(i+1,i+1)=0 THEN STOP
1530 NEXT j,i
1540 REM Calculamos las aceleracion
es
1550 FOR i=n4 TO 1 STEP -1
1560 IF i=n4 GOTO 1600
1570 FOR j=i+1 TO n4
1580 fue(i)=fue(i)-(matriz(i,j)*ace
le(j))
1590 NEXT j
```

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1600 acele(i)=fue(i)/matriz(i,i)
1610 NEXT i
1615 GOSUB 3000
1620 RETURN
1630 REM pintar
1640 ca=FIX(640/n1):CLS:CLS#2:CLS#4
1650 FOR i=1 TO n1
1660 IF ang(i)<90 THEN GOTO 1750
1670 MOVE a(i)+8,12*16:TAG:PRINT CH
R$(231);:TAGOFF
1680 MOVE a(i),9*16:DRAW a(i)+32,9*
16:DRAW a(i)+32,9*16-25:DRAW a(i),9
*16-25:DRAW a(i),9*16:MOVER 5,-5:FI
LL 1
1690 MOVE a(i)+16,12*16:DRAWR 0,-3*
16
1700 MOVE a(i)+16,9*16-25:DRAWR 0,-
20:PLOT a(i)+15,9*16-34:PLOT a(i)+1
6,9*16-34
1710 MOVE a(i),6*16:TAG:PRINT"M";i;
:TAGOFF
1720 MOVE a(i)+30,9*16-34::TAG:PRIN
T"P";i;:TAGOFF
1730 ka(i,1)=a(i)+8:ka(i,2)=12*16
1740 GOTO 2050
1750 IF ang(i)>0 THEN GOTO 1850
1760 MOVE ca*(i-1),9*16-26:DRAW ca*
i,9*16-26
1770 MOVE ca*(i-1)+(FIX((ca-48)/3))
,9*16:DRAWR 32,0:DRAWR 0,-25:DRAWR
-32,0:DRAWR 0,25:MOVER 5,-5:FILL 1

1780 MOVE ca*(i-1)+(2*FIX((ca-32)/3
))+32,9*16-9:TAG:PRINT CHR$(231);:T
AGOFF
1790 MOVE ca*(i-1)+(2*FIX((ca-32)/3
))+32,9*16-9:DRAW ca*(i-1)+(FIX((ca
-48)/3)),9*16-9
1800  MOVE ca*(i-1)+(FIX((ca-48)/3)
),6*16:TAG:PRINT"M";i;:TAGOFF
1810  MOVE ca*(i-1)+(FIX((ca-48)/3)
)+16,9*16-25:DRAWR  0,-20:PLOT ca*(
i-1)+(FIX((ca-48)/3))+15,9*16-34:PL
OT ca*(i-1)+(FIX((ca-48)/3))+17,9*1
6-34
1820  MOVE ca*(i-1)+(FIX((ca-48)/3)
)+30,9*16-34:TAG:PRINT"P";i;:TAGOFF
1830 ka(i,1)=ca*(i-1)+(2*FIX((ca-32
)/3))+40:ka(i,2)=9*16-9
1840 GOTO 2050
1850 IF ka(i,3)=2 THEN GOTO 1960
1860 MOVE ca*(i-1),12*16:DRAW ca*i,
8*16
1870 MOVE FIX(ca*(i-1)+(ca-35)/2),1
2*16-FIX(((3*16/ca)*(ca-32)/2))-5:D
RAWR 5,(ca/(3*16))*5:DRAWR 30,-(((3
*16)/ca)*30):DRAWR -5,-(ca/(3*16))*
5:DRAWR -30,(((3*16)/ca)*30):MOVER
5,5:FILL 1
1880 MOVE FIX(ca*(i-1)+(ca-35)/2),6
*16:TAG:PRINT"M";i;:TAGOFF
1890 MOVE ca*(i-1)+8,13*16:TAG:PRIN
T CHR$(231);:TAGOFF
1900 MOVE ca*(i-1),12*16+8:DRAW FIX
(ca*(i-1)+(ca-35)/2)+8,12*16-FIX(((
3*16/ca)*(ca-32)/2))
1910 MOVE FIX(ca*(i-1)+(ca-35)/2)+1
5,12*16-FIX(((3*16/ca)*(ca-32)/2))-
(((3*16)/ca)*30)-5:DRAWR 0,-20:PLOT
 FIX(ca*(i-1)+(ca-35)/2)+14,12*16-F
IX(((3*16/ca)*(ca-32)/2))-(((3*16)/
ca)*30)-15
1920 PLOT FIX(ca*(i-1)+(ca-35)/2)+1
6,12*16-FIX(((3*16/ca)*(ca-32)/2))-
(((3*16)/ca)*30)-15
1930 MOVE FIX(ca*(i-1)+(ca-35)/2)-1
7,11*16-FIX(((3*16/ca)*(ca-32)/2))-
15:TAG:PRINT"P";i;:TAGOFF
1940 ka(i,1)=ca*(i-1)+16:ka(i,2)=13
*16
1950 GOTO 2050
1960 MOVE ca*(i-1),8*16:DRAW ca*i,1
2*16
1970 MOVE FIX(ca*(i-1)+(ca-35)/2),8
*16+FIX(((3*16/ca)*(ca-35)/2))+10:D
RAWR -5,(ca/(3*16))*5:DRAWR 30,(((3
*16)/ca)*30:DRAWR 5,-(ca/(3*16))*5:D
RAWR -30,-((3*16)/ca)*30
1980 MOVER 5,5:FILL 1
1990 MOVE FIX(ca*(i-1)+(ca-35)/2),6
*16:TAG:PRINT"M";i;:TAGOFF
2000 MOVE ca*i-16,13*16:TAG:PRINT C
HR$(231);:TAGOFF
2010 MOVE ca*i,13*16-8:DRAW FIX(ca*
(i-1)+(ca-35)/2)-3,8*16+FIX(((3*16/
ca)*(ca-32)/2))+15
2020 MOVE FIX(ca*(i-1)+(ca-35)/2)+1
5,8*16+FIX(((3*16/ca)*(ca-32)/2))+(
(3*16)/ca)*30+7:DRAWR 0,-20:PLOT FI
X(ca*(i-1)+(ca-35)/2)+14,8*16+FIX((
(3*16/ca)*(ca-32)/2))+((3*16)/ca)*3
0-2
2030 PLOT FIX(ca*(i-1)+(ca-35)/2)+1
6,8*16+FIX(((3*16/ca)*(ca-32)/2))+(
(3*16)/ca)*30-2
2040 ka(i,1)=ca*i-8:ka(i,2)=13*16:M
OVE FIX(ca*(i-1)+(ca-35)/2)+30,8*16
+FIX(((3*16/ca)*(ca-32)/2))+((3*16)
/ca)*30-10:TAG:PRINT"P";i;:TAGOFF

2050 NEXT i
2060 FOR i=1 TO n4
2070 IF c(i,1)>n1 THEN v1=pol(c(i,1
)-n1,6):u1=pol(c(i,1)-n1,7) ELSE v1
=ka(c(i,1),1):u1=ka(c(i,1),2)
2080 IF c(i,2)>n1 THEN v2=pol(c(i,2
)-n1,6):u2=pol(c(i,2)-n1,7) ELSE v2
=ka(c(i,2),1):u2=ka(c(i,2),2)
2090 pol(i,6)=(v1+v2)/2
2100 IF u1>u2 THEN pol(i,7)=u1+32 E
LSE pol(i,7)=u2+32
2110 NEXT i
2120 FOR i=1 TO n4
2130 MOVE pol(i,6),pol(i,7):TAG:PRI
NT CHR$(231);:TAGOFF
2140 IF c(i,1)<=n1 THEN MOVE pol(i,
6)+8,pol(i,7):DRAW ka(c(i,1),1),ka(
c(i,1),2) ELSE MOVE pol(i,6)+8,pol(
i,7):DRAW pol(c(i,1)-n1,6),pol(c(i,
1)-n1,7)
2150 IF c(i,2)<=n1 THEN MOVE pol(i,
6)+8,pol(i,7):DRAW ka(c(i,2),1),ka(
c(i,2),2) ELSE MOVE pol(i,6)+8,pol(
i,7):DRAW pol(c(i,2)-n1,6),pol(c(i,
2)-n1,7)
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```
2160 MOVE pol(i,6)+16,pol(i,7)-16:T
AG:PRINT"X";i;:TAGOFF
2170 NEXT i
2180 RETURN
2190 CLS#2:CLS#4
2200 FOR i=1 TO n1
2210 FOR j=1 TO n4
2220 IF ace(i,j)=1 THEN rez(i)=rez(
i)+acele(j) ELSE IF ace(i,j)=-1 THE
N rez(i)=rez(i)-acele(j)
2230 NEXT j
2240 NEXT i
2250 PRINT#4,"pulsa G aceleraciones
 Generalizadas      pulsa A acelerac
iones Absotutas          pulsa C Con
tinuar"
2260 e$=INKEY$
2270 IF e$="a" OR e$="A" THEN GOTO
2290 ELSE IF e$="g" OR e$="G" THEN
GOTO 2320 ELSE IF e$="c" OR e$="C"
THEN GOTO 2350 ELSE GOTO 2260
2280 REM aceleraciones absolutas
2290 CLS#2
2300 FOR i=1 TO n1:PRINT#2,"ACELERA
CION de la masa";i;"=";rez(i):NEXT
 i
2310 CLS#4:GOTO 2250
2320 CLS#2
2330 FOR i=1 TO n4:PRINT#2,"ACELERA
CION en cuerda";i;"=";acele(i):NEXT
 i
2340 CLS#4:GOTO 2250
2350 RETURN
2360 c(n4+1,1)=n2:c(n4+1,2)=n3
2370 IF n2>n1 THEN m1=pol(n2-n1,6):
m2=pol(n2-n1,7) ELSE m1=a(n2):m2=9*
16
2380 IF n3>n1 THEN m3=pol(n3-n1,6):
m4=pol(n3-n1,7) ELSE m3=a(n3):m4=9*
16
2390 pol(n4+1,6)=(m1+m3)/2
2400 IF m4>m2 THEN pol(n4+1,7)=m4+3
2 ELSE pol(n4+1,7)=m2+32
2410 m5=0
2420 FOR i=1 TO n4
2430 IF pol(n4+1,6)=pol(i,6) AND po
l(n4+1,7)=pol(i,7) THEN m5=1
2440 NEXT i
2450 IF m5=1 THEN m5=0:pol(n4+1,7)=
(pol(n4+1,7)+32):GOTO 2420
2460 IF (n2 OR n3)>n1 THEN GOTO 248
0
2470 pol(n4+1,1)=n2:pol(n4+1,2)=-1*
n3
2480 IF n2<=n1 THEN pol(n4+1,1)=n2:
m5=1:GOTO 2540
2490 m5=0
2500 FOR i=1 TO n1
2510 pol(n4+1,i)=ABS(pol(n2-n1,i))
2520 IF pol(n4+1,i)<>0 THEN m5=m5+1
2530 NEXT i
2540 IF n3<=n1 THEN pol(n4+1,m5+1)=
-1*n3:RETURN
2550 FOR i=m5+1 TO n1
2560 pol(n4+1,i)=-1*ABS(pol(n3-n1,i
-m5))
2570 NEXT i
2580 RETURN
2590 m1=0:m2=0
2600 FOR i=1 TO n1
2610 IF pol(n4,i)=0 THEN m1=1
2620 IF b(i,2)=0 THEN m2=1
2630 NEXT i
2640 IF m1=0 THEN p5=2:GOTO 2670
2650 IF m2=0 THEN p5=1:GOTO 2670
2660 p5=0
2670 RETURN
2680 e$=INKEY$
2690 IF e$="C" OR e$="c" THEN p1=1
ELSE IF e$="D" OR e$="d" THEN p1=2
ELSE IF e$="O" OR e$="o" THEN p1=3
ELSE GOTO 2680
2700 RETURN
2710 MOVE m3,m4:TAG:PRINT f2$;:TAGO
FF:MOVE m1,m2:TAG:PRINT f1$;:TAGOFF
2720 RETURN
2730 REM pintar
2740 CLS:CLS#2:CLS#4
2750 FOR i=1 TO n1
2760 MOVE a(i),9*16:TAG:PRINT d$;:T
AGOFF:MOVE a(i),8*16:TAG:PRINT d$;:
TAGOFF:MOVE a(i),7*16:TAG:PRINT"M";
i;:TAGOFF
2770 NEXT i
2780 IF n4=0 THEN RETURN
2790 FOR i=1 TO n4
2800 o1=c(i,1):o2=c(i,2)
2810 MOVE pol(i,6),pol(i,7):TAG:PRI
NT CHR$(231);:TAGOFF
2820 IF o1>n1 THEN m3=pol(o1-n1,6):
m4=pol(o1-n1,7) ELSE m3=a(o1)+16:m4
=9*16
2830 IF o2>n1 THEN m5=pol(o2-n1,6):
m6=pol(o2-n1,7) ELSE m5=a(o2)+16:m6
=9*16
2840 MOVE pol(i,6),pol(i,7):DRAW m5
,m6
2850 MOVE pol(i,6),pol(i,7):DRAW m3
,m4
2860 NEXT i
2870 RETURN
2880 IF na>n1+n4 THEN na=1
2890 IF na>n1 THEN GOTO 2920
2900 IF b(na,2)=1 THEN na=na+1:GOTO
 2880
2910 RETURN
2920 IF pol(na-n1,8)=1 THEN na=na+1
:GOTO 2880
2930 RETURN
2940 RUN
3000 MODE 2:CLS
3001 FOR i=1 TO n4
3010 FOR j=1 TO n4
3020 a=(40-n4*6)/(n4+2):d=(20-2*n4)
/(n4+1)
3030 LOCATE a*j+6*(j-1),i*d:PRINT m
atriz(i,j);"X";j
3040 NEXT j
3050 LOCATE a*(n4+1)+6*n4,i*d:PRINT
"=";fue(i)
3060 NEXT i
3070 LOCATE 1,23:PRINT"pulsa C Cont
inuar"
3080 e$=INKEY$
3090 IF e$<>"C" AND e$<>"c" THEN GO
TO 3080
3100 MODE 1:WINDOW #4,1,40,22,25:PA
PER #4,3:CLS#4
3110 WINDOW #2,1,40,1,5:PAPER#2,3:C
LS#2
3120 RETURN
```