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10 REM          Program 1 - Trees
20 REM          by Ian C. Sharpe
30 REM (c) Computing with the Amstrad
40 REM ----- CPC -----
50 DEFINT a-z:DEG:MODE 1
60 INPUT"angle,depth,size? ",angle,depth
,size
70 DIM stack(depth,3):stack(sp,0)=0:stack
(sp,1)=0:stack(sp,2)=angle/2:stack(sp,3
)=depth+1
80 CLS:ORIGIN 320,10:sp=0:i=1
90 REM -----
100 f=stack(sp,3)-1:IF f=0 THEN sp=sp-1:
IF sp=-1 THEN END ELSE 100
110 x=stack(sp,0):y=stack(sp,1):a=stack(
sp,2)
120 s=size*0.75^(depth-f-1)
130 a(0)=a-(angle/2):a(1)=a+(angle/2)
140 tx=x+s*SIN(a(0)):ty=y+s*COS(a(0))
150 MOVE x,y:DRAW tx,ty
160 GOSUB 190:GOSUB 190
170 sp=sp+1:GOTO 100
180 REM -----
190 i=i XOR 1
200 stack(sp+i,0)=tx:stack(sp+i,1)=ty
210 stack(sp+i,2)=a(i):stack(sp+i,3)=f
220 RETURN

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10 REM      Program II - Landscape
20 REM      by Ian C. Sharpe
30 REM (c) Computing with the Amstrad
40 REM ----- CPC -----
50 DEFINT a-z:DEFREAL r,w
60 RANDOMIZE TIME:DEG:DEF FNrn(r)=CINT(R
ND*r)
70 MODE 1:BORDER 1:INK 0,0:INK 1,11:INK
2,18:INK 3,26
80 REM --- Sky & big fluffy clouds ---
90 PAPER 1:CLS:PAPER 0
100 FOR clouds=1 TO 5+FNrn(2)
110 cloudx=30+FNrn(580):cloudy=330+FNrn(
10*clouds)
120 FOR fluffybit=1 TO 4+FNrn(2)
130 ex=cloudx-50+FNrn(100):ey=cloudy-30+
FNrn(60)
140 er1=60+FNrn(8*clouds):ratio=0.1+RND*
0.2
150 GOSUB 380:NEXT:NEXT
160 REM ---- Sea, ground & hills ----
170 LOCATE 1,9:PRINT STRING$(200,127);
180 PEN 2:PRINT STRING$(240,206);STRING$
(240,206);:PEN 1
190 FOR dy=0 TO 12:y=182-dy*dy
200 FOR x=0 TO 638 STEP 2:PLOT x,y+FNrn(
8),1+FNrn(2)
210 NEXT x,dy
220 FOR hills=1 TO 3+FNrn(1)
230 hy=290-hills*35:ht=(6-hills)*11:w1hl
=(0.15+RND)/3:lift=ht+FNrn(ht/10):clip=F
Nrn(ht/6):offst=FNrn(200)
240 col(0)=2:col(1)=FNrn(1)
250 GOSUB 450:NEXT
260 REM ----- Grow some trees -----
270 FOR size=40 TO 160 STEP 15:RANDOMIZE
TIME
280 treey=200-size:treex=20+FNrn(600):tr
eewid=CINT(size/4)
290 IF TEST(treex,treey+30)<>2 THEN 280
300 angle=FNrn(6)-44:depth=8+FNrn((size-

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40)/40)
310 DIM stack(depth,3)
320 stack(0,0)=0:stack(0,1)=0:stack(0,2)
=angle/2:stack(0,3)=depth+1
330 ORIGIN treex,treey:sp=0:i=1
340 GOSUB 500:ORIGIN 0,0:ERASE stack:NEX
T
350 REM = Press Space when finished =
360 PRINT CHR$(7);:WHILE INKEY(47)<>0:WE
ND:RUN
370 REM ===== Elipse for clouds =====
380 ORIGIN ex,ey:ersq=er1*er1
390 FOR x=0 TO er1 STEP 2
400 y=2*ratio*SQR(ersq-x*x)
410 MOVE -x,-y/2:DRAWR 0,y,3:PLOT 0,0,1
:IF RND<0.25 THEN PLOT 0,-y
420 MOVE x,-y/2:DRAWR 0,y,3:PLOT 0,-y,1
430 NEXT:ORIGIN 0,0
440 RETURN
450 REM ----- Sine wave hill -----
460 FOR x=0 TO 638 STEP 2
470 hh=MAX(lift+ht*SIN(offst+(x*w1hl)),c
lip)
480 IF hh>4 THEN MOVE x,hy:DRAWR 0,FNrn(
4):DRAWR 0,hh,col(z):z=z XOR 1:PLOT 0,0
,2
490 NEXT:RETURN
500 REM ----- Tree -----
510 f=stack(sp,3)-1:IF f=0 THEN sp=sp-1:
IF sp=-1 THEN RETURN ELSE 510
520 x=stack(sp,0):y=stack(sp,1):a=stack(
sp,2)
530 df=depth-f:s=size*(0.7↑df):bwid=2+tr
eewid/(2↑df)
540 a(0)=a-(angle/2)+FNrn(4)-2:a(1)=a+(a
ngle/2)+FNrn(4)-2
550 tx=x-s*SIN(a(0)):ty=y+s*COS(a(0))
560 xd=tx-x:yd=ty-y
570 ix=bwid*COS(a(0)):IF ix=0 THEN ix=1
580 xs=SGN(ix):iy=bwid*SIN(a(0))
590 FOR xx=x+ix TO x STEP -xs:yy=y+iy*(x

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x-x)/ix:MOVE xx,yy:DRAWR xd,yd,0:NEXT:DR  
AW x,y,3+(f<FNrn(3)+depth*0.35)  
600 GOSUB 630:GOSUB 630  
610 sp=sp+1:GOTO 510  
620 :  
630 i=i XOR 1  
640 stack(sp+i,0)=tx+i*ix/2:stack(sp+i,1  
)=ty+i*iy/2  
650 stack(sp+i,2)=a(i):stack(sp+i,3)=f  
660 RETURN
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