

PRINT-OUT VAN BBM-15.exe

C:\PROGRA~3\PB35\PB.EXE

File Edit Search Run Compile Options Debug G:\PB35\BBM15.BAS

```
10 REM***Copyright 1998-2010, Fractal Consultancy, *****
20 REM ***Datum: 29 december 1997 - 31 december 2009 ***
30 SCREEN 12: color 1,15
35 print
40 print "FRACTAL-GENERATOR (3D Mandelbrot set) based on different Layers."
45 print "Program BBM15.exe d.d. 31 december 2009."
50 print "Copyright 1998-2010, Fractal Consultancy, Jules Ruis; All rights r
60 print "Wagenaarlaan 2, 5691 GP Son, The Netherlands; e-mail: Info@fractal
70 print
72 print "For 'standard' click on 'Enter'."
74 print
80 WINDOW <-320,-240>-<319,239>; AC=0; BC=0 : UF=1 : T=0 : GK=0
90 input "Power P of function X^P; standard P=?"; P
100 if P=0 then P=?
110 input "With different colors? (y/n; standard=y)": ";OMG$ 
120 if OMG$="" then OMG$="y"
130 input "Size of the image (100-320; standard=200)": ";N1
140 if N1=0 then N1=200
145 input "Starting point z-position <-1 until +1; standard=-1": ";C
150 if C=0 then C=-1
151 if P=2 then C=-0.45
152 Zstart=C
155 input "With automatical change of z-position? (y/n; standard=y)": "Zpos$ 
160 if Zpos$="" then Zpos$="y"
162 if Zpos$="y" then goto 165 else goto 170
165 input "Size of z-steps; <.01 until .1; standard=.05": ";delta
166 if delta=0 then delta=.05
170 Input "Other centre-point than x,y=0,0? (y/n; standard=n)": ";CH$ 
180 if CH$="" then CH$="n"
190 if CH$="y" then goto 200 else goto 250
200 input "Position x-centre? (.35 until -1.5; standard=-1.4)": ";AC
210 if AC=0 then AC=-1.40
220 input "Position y-centre? (-.75 until .75; standard=0)": ";BC
230 input "Zoom UF (<10 - .01; standard=.1)": ";UF
240 if UF=0 then UF=.1
250 if T=0 then cls:
253 print "P="; P
255 print "z="; C
260 if P=2 and CH$="y" then AC=-.65: BC=0:
270 DELH=1.6*UF: DELU=1.2*UF
280 N2=INT<N1*DELU/DELH>
290 FOR I=-N1 TO N1 : A=I*DELH/N1+AC
300 FOR J=-N2 TO N2 : B=J*DELU/N2+BC
|00001:001|---INS TAB INDNT UNDNT|Size: 3299|←
Watch
```

## PRINT-OUT VAN BBM-15.exe

The screenshot shows a Windows desktop environment. In the center, there is a window titled "C:\PROGRA~3\PB35\PB.EXE" displaying a BBC BASIC program. The program code is as follows:

```
300 FOR J=-N2 TO N2 : B=J*DELU/N2+BC
310 X=A: Y=B: W=C: K=0:
320 DO:
340 R=SQR(X^2+Y^2+W^2)
345 theta=atn(W/(SQR(X^2+Y^2)))
350 if X>0 then fi=atn(Y/X): goto 370
355 if X=0 then fi=atn(Y/(.1E-40)): goto 370
360 if X<0 then fi=atn(Y/X)+3.141592653589793
370
380 X=(R^P)*cos(P*fi)*cos(P*theta)+A
390 Y=(R^P)*sin(P*fi)*cos(P*theta)+B
395 W=(R^P)*sin(P*theta)+C
410 K=K+1
420 LOOP UNTIL R>3 OR K=44
430 if OMG$="y" then goto 460 else goto 440
440 if K<44 then L=0 ELSE L=1
450 goto 660
460 if K<44 then G=15-K MOD 15 else L=1
470 G=15-K MOD 15
480 if G=1 then L=1
490 if G=2 then L=9
500 if G=3 then L=11
510 if G=4 then L=3
520 if G=5 then L=2
530 if G=6 then L=10
540 if G=7 then L=7
550 if G=8 then L=14
560 if G=9 then L=5
570 if G=10 then L=13
580 if G=11 then L=6
590 if G=12 then L=12
600 if G=13 then L=4
610 if G=14 then L=15
620 if G=15 then L=8
630 if K>15 then goto 660 else L=0
660 PSET (I,J),L
680 IF INKEY$<>"" THEN goto 740
690 NEXT J
700 NEXT I
705 if Zpos$="y" then goto 710 else goto 740
710 if C=-Zstart or C>-Zstart then goto 740
720 C=C+delta: T=T+1
730 goto 255
```

The status bar at the bottom of the window shows "Size: 3299". Below the window, a menu bar is visible with options: F1-Help, F5-Zoom, F6-Switch, F7-Trace, F8-Step, F9-Run, F10-Menu, and NUM.

At the very bottom of the screen, the taskbar displays several icons and open windows:

- Windows Start button
- AIM icon
- Internet Explorer icon
- File Explorer icon
- Pagina: 1 van 1
- Woorden: 0
- Nederlands (Nederland)
- C:\PROGRA~3\PB35... (active window)
- Document1 - Micro...
- Document3 - Micro...

## PRINT-OUT VAN BBM-15.exe

The screenshot shows a BBC BASIC development environment. The menu bar includes File, Edit, Search, Run, Compile, Options, and Debug. The title bar indicates the file path: C:\PROGRA~3\PB35\PB.EXE and the current file: G:\PB35\BBM15.BAS. The main window displays the following BBC BASIC code:

```
730  goto 255
740  input "stop/new (s/n)";A$
750  if A$="n" then goto 80
760  if A$="s" then goto 770
770  print "Click on 'enter'"
780  end
```

Below the code, a status bar shows memory addresses and sizes: |000085:001|—=INS—TAB—INDNT—UNDNT—|Size: 3299|—←|. The bottom of the screen features a toolbar with various function keys: F1-Help, F5-Zoom, F6-Switch, F2-Trace, F8-Step, F9-Run, F10-Menu, and NUM. The taskbar at the bottom shows several open applications, including Microsoft Word documents named Document1 and Document4.

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