ID: 201-15-3160

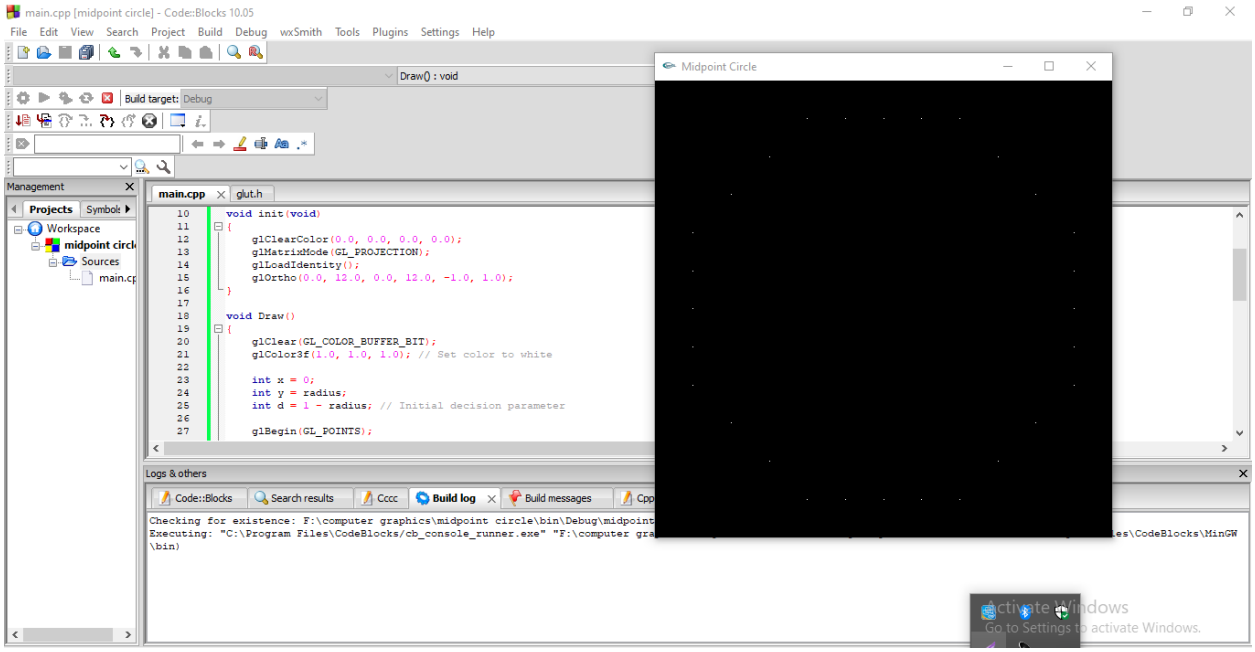
Topic: creating a midpoint circle using center(6,6) and radius 5;

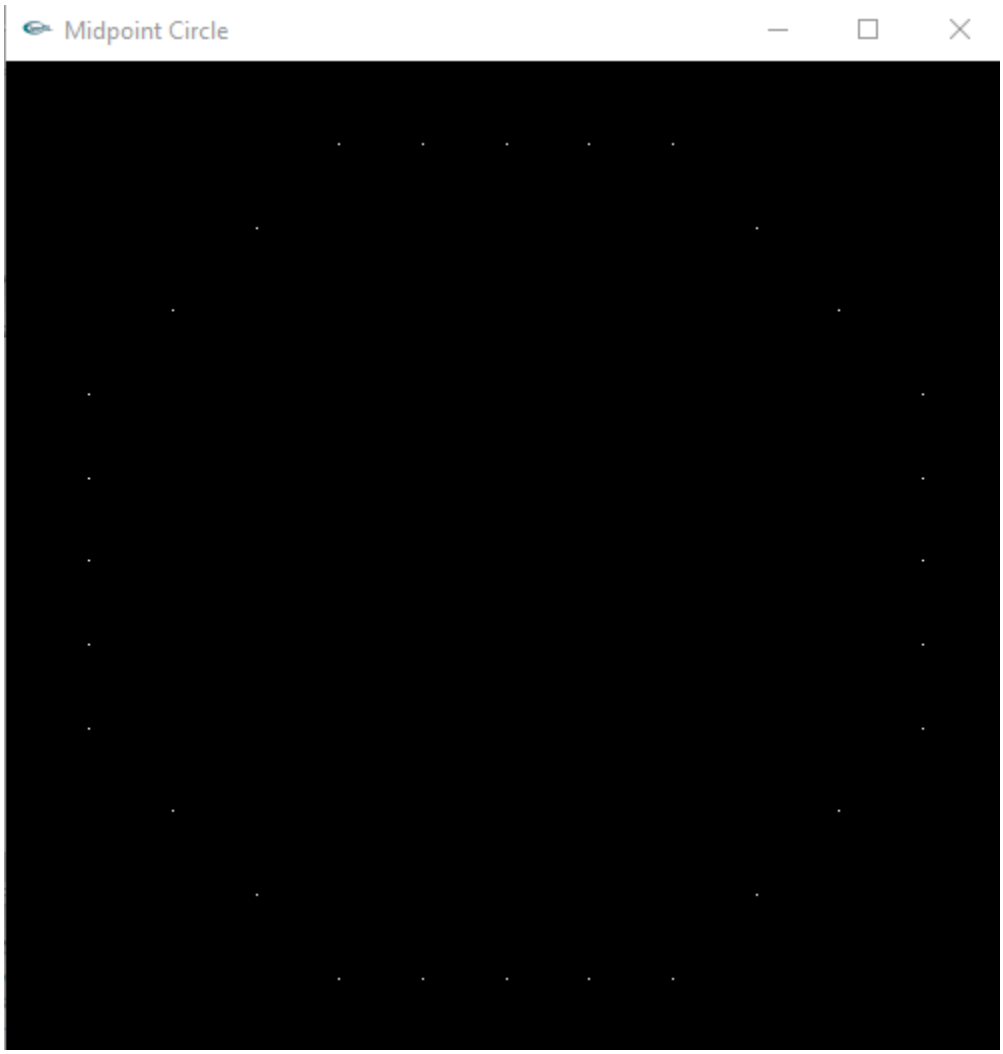
Code:

```
#include<windows.h>
#include <GL/glut.h>
#include <stdio.h>
#include <GL/gl.h>

int centerX = 6;
int centerY = 6;
int radius = 5;

void init(void)
{
   glClearColor(0.0, 0.0, 0.0, 0.0);
   glMatrixMode(GL_PROJECTION);
   glLoadIdentity();
   glOrtho(0.0, 12.0, 0.0, 12.0, -1.0, 1.0);
}

void Draw()
{
   glClear(GL_COLOR_BUFFER_BIT);
   glColor3f(1.0, 0.0, 0.0); // Set color to white

   int x = 0;
   int y = radius;
   int d = 1 - radius; // Initial decision parameter

   glBegin(GL_POINTS);

   while (y >= x)
   {
      glVertex2i(centerX + x, centerY + y);
      glVertex2i(centerX - x, centerY + y);
      glVertex2i(centerX + x, centerY - y);
      glVertex2i(centerX - x, centerY - y);
      glVertex2i(centerX + y, centerY + x);
```

```
        glVertex2i(centerX - y, centerY + x);
        glVertex2i(centerX + y, centerY - x);
        glVertex2i(centerX - y, centerY - x);

        if (d < 0)
        {
            d += 2 * x + 3;
        }
        else
        {
            d += 2 * (x - y) + 5;
            y--;
        }

        x++;
    }

    glEnd();

    glutSwapBuffers();
}

int main(int argc, char **argv)
{
    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_RGB | GLUT_DOUBLE);
    glutInitWindowPosition(0, 0);
    glutInitWindowSize(500, 500);
    glutCreateWindow("Midpoint Circle");
    init();
    glutDisplayFunc(Draw);
    glutMainLoop();
    return 0;
}
```

Screenshot:


main.cpp [midpoint circle] - Code::Blocks 10.05
File Edit View Search Project Build Debug wxSmith Tools Plugins Settings Help
Draw() : void
Build target: Debug
Midpoint Circle
Management
Projects Symbol
Workspace
midpoint circl
Sources
main.cp
main.cpp glut.h
10 void init(void)
11 {
12 glClearColor(0.0, 0.0, 0.0, 0.0);
13 glMatrixMode(GL_PROJECTION);
14 glLoadIdentity();
15 glOrtho(0.0, 12.0, 0.0, 12.0, -1.0, 1.0);
16 }
17
18 void Draw()
19 {
20 glClear(GL_COLOR_BUFFER_BIT);
21 glColor3f(1.0, 1.0, 1.0); // Set color to white
22
23 int x = 0;
24 int y = radius;
25 int d = 1 - radius; // Initial decision parameter
26
27 glBegin(GL_POINTS);
Logs & others
Code::Blocks Search results Cccc Build log Build messages
Checking for existence: F:\computer graphics\midpoint circle\bin\Debug\midpoint
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "F:\computer gra
\bin)
Activate Windows
Go to Settings to activate Windows.


Midpoint Circle