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Subject - C++

Q. Draw '10' using Bresenham circle algo

Soln:

```
#include <bits/stdc++.h>
#include <graphics.h>
using namespace std;

void drawCircle (int xc, int yc, int x, int y)
{
    putpixel (xc+x, yc+y, WHITE);
    putpixel (xc-x, yc+y, WHITE);
    putpixel (xc+x, yc-y, WHITE);
    putpixel (xc-x, yc-y, WHITE);
    putpixel (xc+y, yc+x, WHITE);
    putpixel (xc-y, yc+x, WHITE);
    putpixel (xc+y, yc-x, WHITE);
    putpixel (xc-y, yc-x, WHITE);
}

void CircleBresenham (int xc, int yc, int r)
{
    int x=0, y=r;
    int d=3-2*r;
    drawCircle (xc, yc, x, y);
    while (y>x)
    {
        x++;
        if (d>0)
        {
            y--;
            d = d + 4*(x-y) + 10;
        }
        else
        {
            d = d + 4*x + 6;
        }
        drawCircle (xc, yc, x, y);
        delay (10);
    }
}
```

```

int main()
{
    int gd = DETECT, gm, i;
    float x, y, dx, dy, steps;
    int x0, x1, y0, y1;
    initgraph(&gd, &gm, "");
    setbkcolor(WHITE);
const x0 = 120
    y0 = 120
    x1 = 120
    y1 = 320
    dx = (float) (x1 - x0);
    dy = (float) (y1 - y0);
    if (dx > dy)
    {
        steps = dx;
    }
    else
    {
        steps = dy;
    }
    dx = dx / steps;
    dy = dy / steps;
    x = x0;
    y = y0;
    i = 1;
    while (i <= steps)
    {
        putpixel(x, y, WHITE);
        x += dx;
        y += dy;
        i = i + 1;
    }
draw CircleBresenham(240, 220, 100);
    getch();
    closegraph();
    return 0;
}

```