

Assignment no : 7

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Class : S.E.

Div : A

Batch : A-2

Problem Statement : To draw a circle using Bresenham Circle Drawing Algorithm

Code :

```
#include <iostream>
```

```
#include <graphics.h>
```

```
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 bresenhamCircle(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);
}
}

int main() {
int gd = DETECT, gm;
initgraph(&gd, &gm, NULL);
int xc = 250, yc = 250, r = 150;
bresenhamCircle(xc, yc, r);
getch();
closegraph();
delay(4000);

return 0;
}

```

Output :

```

d_comp_pl_ii_11@d-comp-pl-ii-11:~/SE_A2_S211045_Atharva$
g++ Bresenham.cpp -o b -lgraph
d_comp_pl_ii_11@d-comp-pl-ii-11:~/
SE_A2_S211045_Atharva$ ./b
[xcb] Unknown sequence number while processing queue
[xcb] Most likely this is a multi-threaded client and
XInitThreads has not been called
[xcb] Aborting, sorry about that.
b: ../../src/xcb_io.c:260: poll_for_event: Assertion `!
xcb_xlib_threads_sequence_lost' failed.

```

