**Lab Report. 02**

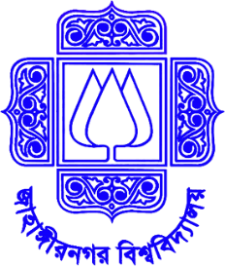
**Title: Lab Report**

*Course title: Computer Graphics Lab*

*Course code: CSE-304*

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###### **Submitted to-**

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| --- | --- | --- | --- |
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Source code:

#include <graphics.h>

void drawCircle(int centerX, int centerY, int radius)

{

int x = 0;

int y = radius;

int decision = 1 - radius;

while (y >= x)

{

putpixel(centerX + x, centerY + y, YELLOW);

putpixel(centerX + y, centerY + x, YELLOW);

putpixel(centerX - y, centerY + x, YELLOW);

putpixel(centerX - x, centerY + y, YELLOW);

putpixel(centerX - x, centerY - y, YELLOW);

putpixel(centerX - y, centerY - x, YELLOW);

putpixel(centerX + y, centerY - x, YELLOW);

putpixel(centerX + x, centerY - y, YELLOW);

if (decision < 0)

{

decision += 2 \* x + 3;

}

else

{

decision += 2 \* (x - y) + 5;

y--;

}

x++;

}

}

int main()

{

int gd = DETECT, gm;

initgraph(&gd, &gm, "");

int centerX = 444;

int centerY = 222;

int radius = 100;

drawCircle(centerX, centerY, radius);

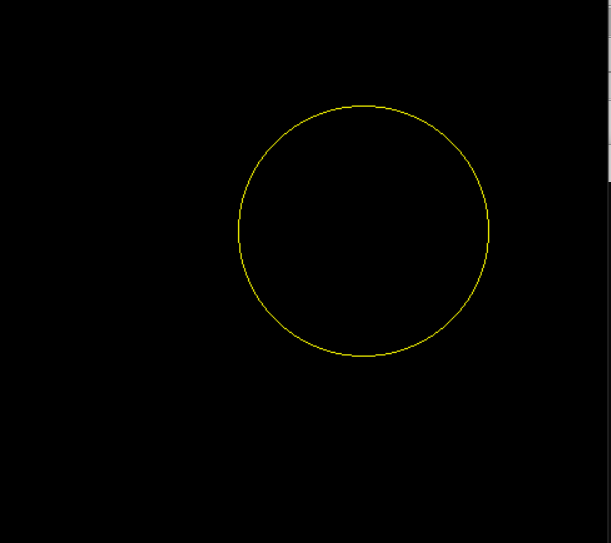
getch();

closegraph();

return 0;

}

Output:



Source code:

#include <graphics.h>

void drawEllipse(int centerX, int centerY, int radiusX, int radiusY)

{

int x = 0;

int y = radiusY;

int aSquare = radiusX \* radiusX;

int bSquare = radiusY \* radiusY;

int decision = bSquare + aSquare \* (0.25 - radiusY);

while (bSquare \* x <= aSquare \* y)

{

putpixel(centerX + x, centerY + y, YELLOW);

putpixel(centerX - x, centerY + y, YELLOW);

putpixel(centerX - x, centerY - y, YELLOW);

putpixel(centerX + x, centerY - y, YELLOW);

if (decision < 0)

{

x++;

decision += bSquare \* (2 \* x + 3);

}

else

{

x++;

y--;

decision += bSquare \* (2 \* x + 3) + aSquare \* (-2 \* y + 2);

}

}

decision = bSquare \* (x + 0.5) \* (x + 0.5) + aSquare \* (y - 1) \* (y - 1) - aSquare \* bSquare;

while (y >= 0)

{

putpixel(centerX + x, centerY + y, YELLOW);

putpixel(centerX - x, centerY + y, YELLOW);

putpixel(centerX - x, centerY - y, YELLOW);

putpixel(centerX + x, centerY - y, YELLOW);

if (decision > 0)

{

y--;

decision += aSquare \* (-2 \* y + 3);

}

else

{

y--;

x++;

decision += bSquare \* (2 \* x + 2) + aSquare \* (-2 \* y + 3);

}

}

}

int main()

{

int gd = DETECT, gm;

initgraph(&gd, &gm, "");

int centerX = 320;

int centerY = 340;

int radiusX = 200;

int radiusY = 100;

drawEllipse(centerX, centerY, radiusX, radiusY);

getch();

closegraph();

return 0;

}

Output:

