**Lab 4 : Ellipse**

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Code:

#include <stdio.h>

#include <graphics.h>

void drawEllipse(float *Xc*, float *Yc*, float *Xk*, float *Yk*){

putpixel(*Xc* + *Xk*, *Yc* + *Yk*, 15);

putpixel(*Xc* - *Xk*, *Yc* + *Yk*, 15);

putpixel(*Xc* + *Xk*, *Yc* - *Yk*, 15);

putpixel(*Xc* - *Xk*, *Yc* - *Yk*, 15);

}

void main(){

float x, y, Xc, Yc, rx, ry, p, rxsq, rysq, px, py;

int gd = DETECT, gm;

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

printf("Enter (Xc, Yc) and rx,ry:");

scanf("%f %f %f %f", &Xc, &Yc, &rx, &ry);

x = 0;

y = ry;

rxsq = rx \* rx;

rysq = ry \* ry;

px = 0;

py = 2 \* rxsq \* y;

p = rysq - (rxsq \* ry) + (0.25 \* rxsq);

drawEllipse(Xc, Yc, x, y);

while (px < py){

x = x + 1;

px = px + Z \* rysq;

if (p < 0){

p = p + rysq + px;

}

else{

y = y - 1;

py = py - 2 \* rxsq;

p = p + rysq + px - py;

}

drawEllipse(Xc, Yc, x, y);

}

p = rysq \* (x + 0.5) \* (x + 0.5) + rxsq \* (y - 1) \* (y - 1) - rxsq \* rysq;

while (y > 0){

y = y - 1;

py = py - 2 \* rxsq;

if (p > 0){

p = p + rxsq - py;

}

else{

x = x + 1;

px = px + 2 \* rysq;

p = p + rxsq - py + px;

}

drawEllipse(Xc, Yc, x, y);

}

getch();

closegraph();

}

OUTPUT:

