Title: Lab Report No.2

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Submitted to

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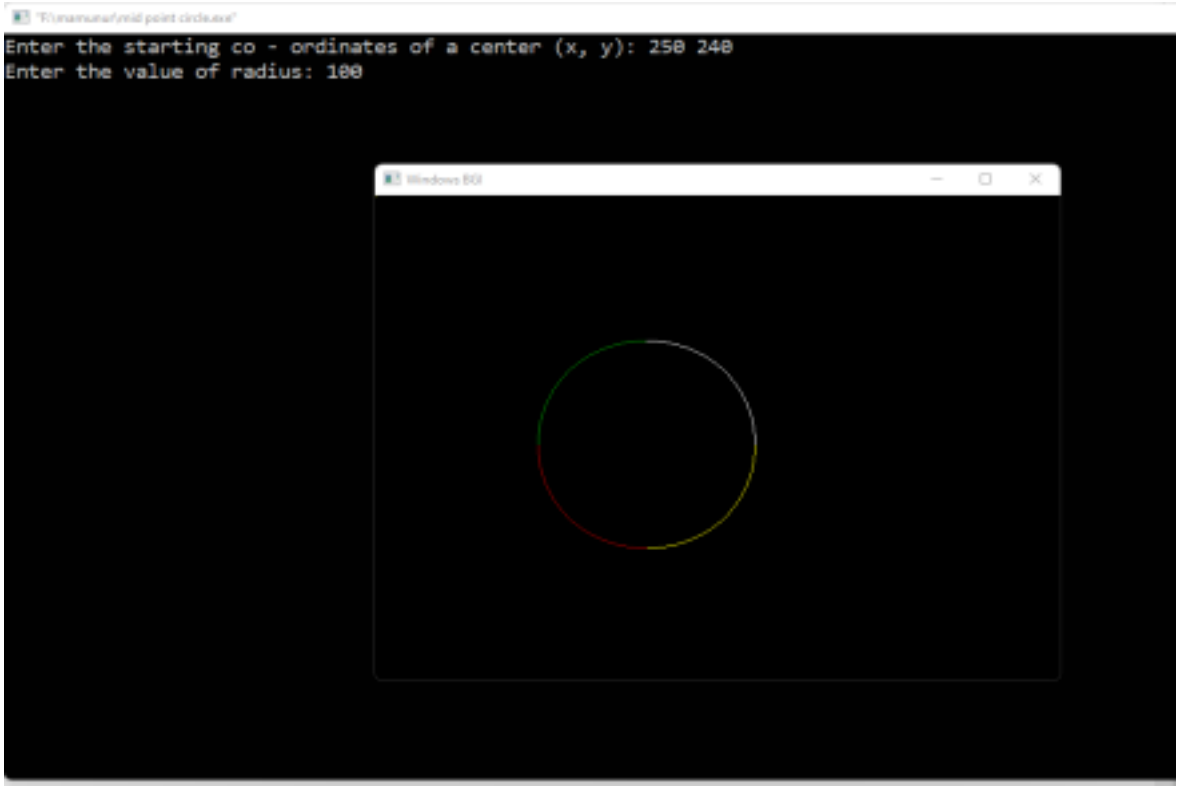
1. **MidPoint circle Code and Output:**

```
#include <bits/stdc++.h>
#include <graphics.h>
using namespace std;
void mid_circle(double x1, double y1, double r)
{
int x = 0;
int y = r;
int p = 1-r;
while (y>x)
{
putpixel(x1 + x, y1 + y, YELLOW);
putpixel(x1 + y, y1 + x,YELLOW);
putpixel(x1 - x, y1 + y,RED);
putpixel(x1 - y, y1 + x, RED);
putpixel(x1 - x, y1 - y, GREEN);
putpixel(x1 - y, y1 - x, GREEN);
putpixel(x1 + x, y1 - y, WHITE);
putpixel(x1 + y, y1 - x, WHITE);
if (p < 0)
{
p += 2*x + 1;
}
else
{
p += 2*x -2*y+1;
y=y-1;
}
x=x+1;
delay(50);
}
}
int main()
{
double x1, y1, r;
int gd = DETECT, gm;
cout<<"Enter the starting co - ordinates of a center (x, y):  ";
cin>>x1>>y1;
cout<<"Enter the value of radius: ";
cin>>r;

initgraph(&gd, &gm, "");
mid_circle(x1, y1, r);
getch();
closegraph();
return 0;
}
```



2. Ellipse Code and Output:

```
#include<iostream>
#include<graphics.h>
#include<conio.h>
#include<math.h>
using namespace std;
void put4pixel(int x,int y,int h,int k) {
 putpixel(x+h,y+k,8);
 putpixel(x+h,-y+k,8);
 putpixel(-x+h,y+k,8);
 putpixel(-x+h,-y+k,8);
 }
int main()
 {
 int x,y,x1,y1,a,b,h,k,theta;
 float p=3.14159/180;
 cout<<"Enter the x and y coordinates: ";  cin>>h>>k;
 cout<<"Enter the major radius: ";
 cin>>a;
 cout<<"Enter the minor radius: ";
   cin>>b;
 int gd=DETECT,gm;
 initgraph(&gd,&gm,"");
```

```
setbkcolor(WHITE);
for(theta=0; theta<=90; theta++)
{
x1=a*cos(theta*p);
y1=b*sin(theta*p);
x=int(x1+0.5);
y=int(y1+0.5);
put4pixel(x,y,h,k);
}
setcolor(8);
getch();
closegraph();
return 0;
}
```