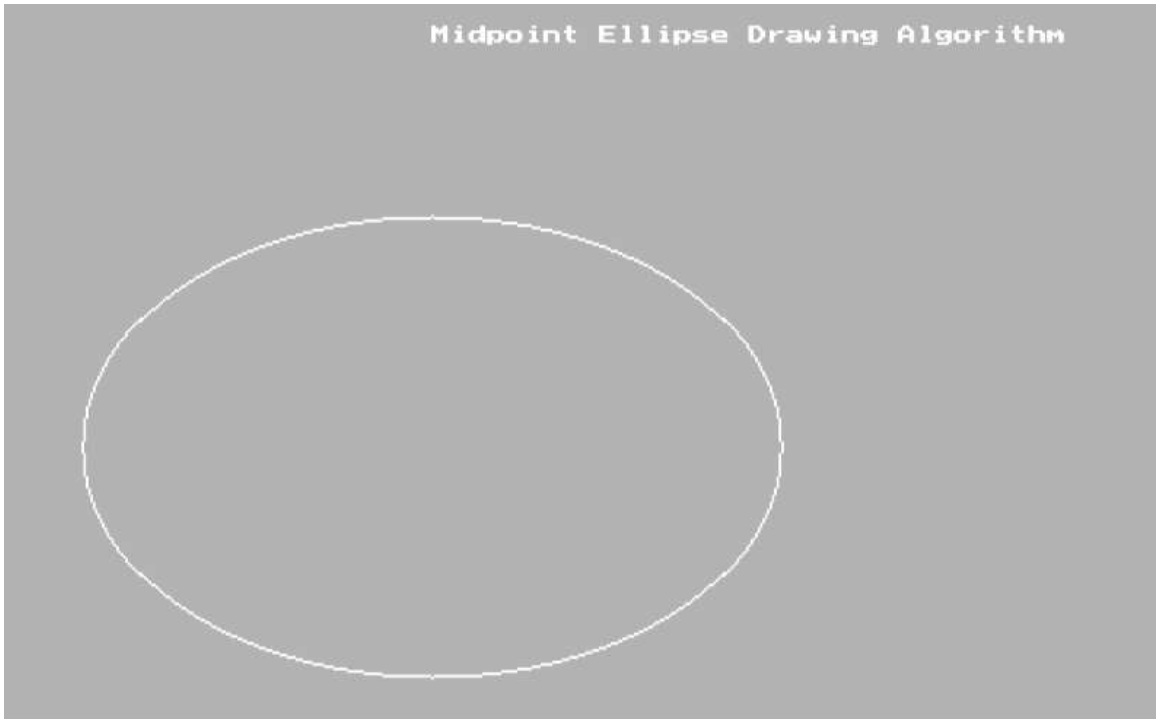
Name: Ameya Barapatre
Roll No: 06

```
#include <stdio.h>
#include <conio.h>
#include<graphics.h>
#include<math.h>
void symmetry();
float x,y;
int xc,yc;
void main()
{
int gd=DETECT,gm;
int a,b;
float p1,p2,dx,dy;
initgraph(&gd,&gm,"C:\\TurboC3\\BGI");
printf("Enter the centrer point: ");
scanf("%d%d",&xc,&yc);
printf("Enter the value of a(Bx) and b(By): ");
scanf("%d%d",&a,&b);
clrscr();
x=0;
y=b;
symmetry();
p1=(b*b)-(a*a*b)+(a*a)/4;
dx=(2.0*b*b*x);
dy=(2.0*a*a*y);
while(dx<=dy)
{
x++;
if(p1<=0)
{
dx=(2.0*b*b*x);
p1=p1+dx+(b*b);
}
else
{
y--;
dx=(2.0*b*b*x);
dy=(2.0*a*a*y);
p1=p1+dx-dy+(b*b);
}
symmetry();
x=-x;
symmetry();
x=-x;
}
x=a;
y=0;
symmetry();
p2=(a*a)+2.0*(b*b*a)+(b*b)/4;
while(dx>dy)
```

```
{
y++;
if(p2>0)
{
dy=(2.0*a*a*y);
p2=p2+(a*a)-dy;
}
else
{
x--;
dx=(2.0*b*b*x);
dy=(2.0*a*a*y);
p2=p2+dx-dy+(a*a);
}
symmetry();
y=-y;
symmetry();
y=-y;
}
outtextxy(200,20,"Midpoint Ellipse Drawing Algorithm");
getch();
closegraph();
}
void symmetry()
{
delay(10);
putpixel(xc+x,yc+y,WHITE);
putpixel(xc-x,yc+y,WHITE);
putpixel(xc+x,yc-y,WHITE);
putpixel(xc-x,yc-y,WHITE);
}
```


Midpoint Ellipse Drawing Algorithm