

```
#include<stdio.h>
```

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

```
#include<conio.h>
```

```
#include<dos.h>
```

```
int main()
```

```
{
```

```
    long x,y,x_center,y_center;
```

```
    long a_sqr,b_sqr,fx,fy,d,a,b,tmp1,tmp2;
```

```
    int g_driver=DETECT,g_mode;
```

```
    clrscr();
```

```
    initgraph(&g_driver,&g_mode,"C:\\\\TurboC3\\\\BGI");
```

```
    printf("*MID POINT ELLIPSE*");
```

```
    printf("\n Enter coordinate x = ");
```

```
    scanf("%ld",&x_center);
```

```
    printf(" Enter coordinate y = ");
```

```
    scanf("%ld",&y_center);
```

```
    printf("\n Now Enter constants a =");
```

```
    scanf("%ld",&a,&b);
```

```
    printf(" Now Enter constants b =");
```

```
    scanf("%ld",&b);
```

```
    x=0;
```

```
    y=b;
```

```
    a_sqr=a*a;
```

```

b_sqr=b*b;

fx=2*b_sqr*x;

fy=2*a_sqr*y;

d=b_sqr-(a_sqr*b) + (a_sqr*0.25);

do
{

    putpixel(x_center+x,y_center+y,1);

    putpixel(x_center-x,y_center-y,1);

    putpixel(x_center+x,y_center-y,5);

    putpixel(x_center-x,y_center+y,5);


    if(d<0)
    {

        d=d+fx+b_sqr;

    }

    else

    {

        y=y-1;

        d=d+fx+-fy+b_sqr;

        fy=fy-(2*a_sqr);

    }

    x=x+1;

    fx=fx+(2*b_sqr);

    //    delay(1000);

}

```

```

while(fx<fy);

tmp1=(x+0.5)*(x+0.5);

tmp2=(y-1)*(y-1);

d=b_sqr*tmp1+a_sqr*tmp2-(a_sqr*b_sqr);


do
{
    putpixel(x_center+x,y_center+y,4);
    putpixel(x_center-x,y_center-y,4);
    putpixel(x_center+x,y_center-y,2);
    putpixel(x_center-x,y_center+y,2);


    if(d>=0)
    d=d-fy+a_sqr;
    else
    {
        x=x+1;
        d=d+fx-fy+a_sqr;
        fx=fx+(2*b_sqr);
    }
    y=y-1;
    fy=fy-(2*a_sqr);
}

while (y>0);

getch();

```

```
closegraph();  
  
return 0;  
  
}
```

