```cpp
#include<iostream>
#include<graphics.h>
#include<math.h>
#define PI 3.142
using namespace std;
int main()
{
    int gd=DETECT,gm,i,j,k;
    float xc,yc,r,ay,ax,a;
int x0,y0,amp,w;
cout<<"Enter starting point of sine wave and amplitude and wavelength";
cin>>x0>>y0>>amp>>w;
initgraph(&gd,&gm,NULL);
    int x1,x2,x3,x4,y1,y2,y3,y4;
x1=x0;
y1=y0;
x2=x1;
y2=y1-amp;
x3=x1+w/2;
y3=y2;
x4=x1+w/2;
y4=y1;
line(x0,y0,getmaxx(),y0);
int c=getmaxx()-50;
while(a<=1)
    {
        ax=(x4*a*a*a)+(3*x3*a*a*(1-a))+(3*x2*a*(1-a)*(1-a))+(x1*(1-
a)*(1-a)*(1-a));
        ay=(y4*a*a*a)+(3*y3*a*a*(1-a))+(3*y2*a*(1-a)*(1-a))+(y1*(1-
a)*(1-a)*(1-a));
        putpixel(ax,ay,15);
        a=a+0.0005;
    }
for(int k=1;x4<c;k++)
{
if(k%2==0)
{
x1=x4;
y1=y4;
x2=x2+w/2;
y2=y2-2*amp;
x3=x3+w/2;
y3=y3-2*amp;
x4=x4+w/2;
y4=y4;


a=0;
    while(a<=1)
    {
        ax=(x4*a*a*a)+(3*x3*a*a*(1-a))+(3*x2*a*(1-a)*(1-a))+(x1*(1-
a)*(1-a));
        ay=(y4*a*a*a)+(3*y3*a*a*(1-a))+(3*y2*a*(1-a)*(1-a))+(y1*(1-
a)*(1-a)*(1-a));
        putpixel(ax,ay,15);
        a=a+0.0005;
    }


}
else
{
x1=x4;
y1=y4;
```

```
x2=x2+w/2;
y2=y2+2*amp;
x3=x3+w/2;
y3=y3+2*amp;
x4=x4+w/2;
y4=y4;

a=0;
    while(a<=1)
      {
          ax=(x4*a*a*a)+(3*x3*a*a*(1-a))+(3*x2*a*(1-a)*(1-a))+(x1*(1-
a)*(1-a)*(1-a));
          ay=(y4*a*a*a)+(3*y3*a*a*(1-a))+(3*y2*a*(1-a)*(1-a))+(y1*(1-
a)*(1-a)*(1-a));
          putpixel(ax,ay,15);
          a=a+0.0005;
      }
}
delay(100);
}
delay(50000);
closegraph();
return 0;
}
Enter starting point of sine wave and amplitude and wavelength0
50
40
50
[xcb] Unknown sequence number while processing queue
[xcb] Most likely this is a multi-threaded client and XInitThreads has
not been called
[xcb] Aborting, sorry about that.
a.out: ../../src/xcb_io.c:259: poll_for_event: Assertion `!
xcb_xlib_threads_sequence_lost' failed.
```