# COSC 4370 - Homework 1

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# September 2022

1 Problem

The assignment requires the rasterization of ellipse (x/12)2+(y/6)2=642 where x>=0.

2 Method

There is one technique that I have implemented to get a clearer picture of the ellipse. Midpoint, this technique helps us plot the x and y coordinate for the pixel.

I also utilized basic math to find the x and y equation from the given equation.

3 Implementation

Instead of writing an algorithm I utilized the round command which would round the decimal to the nearest integer. In this case I rounded the x value as y increases by height.

y = sqrt(pow(64,2)-pow((x/12),2))\*6

x = sqrt(pow(64,2)-pow(y/6),2)\*12

I utilized y to find the height of the total ellipse from -384 to 384 this showed that the ellipse needed to be shifted up and that the for loop stops at y.

X was used to equated the location of the plots since it was relies heavily on the value of y and the x equation was already the semi-ellipse when x>0.

4 Results

The result of the program outputted a BMP file showing the semi-ellipse as x>0.

