Class/Object Lab

1. Following is a function that draws a happy face. Use this function as the basis of a new class called **HappyFace**. The **HappyFace** class constructor should take **x**, **y** and **diam** variables that will be stored in the class as instance variables. The class should have a method called **display()** that draws itself in the sketch window. The body of the **display()** method should closely follow the drawing commands in the **happyFace()** function. Specifically, the outcomes should be identical if you use the same parameters call the **happyFace()** function or construct a **HappyFace** object and then call its **display()** method. Test the class by creating a new instance of **HappyFace** positioned at the center of the sketch window and calling its **display()** method.

```
// Draw happy face
// (x, y)      location
// diam        diameter
void happyFace(float x, float y, float diam){
  //Face
  fill(255, 255, 0);
  stroke(0);
  strokeWeight(2);
  ellipseMode(CENTER);
  ellipse(x, y, diam, diam);

  // Smile
  float startAng = 0.1*PI;
  float endAng = 0.9*PI;
  float smileDiam = 0.6*diam;
  arc(x, y, smileDiam, smileDiam, startAng, endAng);

  // Eyes
  float offset = 0.2*diam;
  float eyeDiam = 0.1*diam;
  fill(0);
  ellipse(x-offset, y-offset, eyeDiam, eyeDiam);
  ellipse(x+offset, y-offset, eyeDiam, eyeDiam);
```