1) Recognizing Classes. Take a look at the Pixel Class.

   a) Identify the object.

   b) Identify the constructor.

   c) How do we create a pixel?

   d) Identify the state of the object.

   e) What are some of the methods that operate on the object?

   f) How can we change the state of a pixel in our program?
2) Modifying Classes
   a) Recall the point class from today’s reading:

   ```python
   class Point:
       ''' Point class for representing and manipulating x,y coordinates. '''
       
       def __init__(self, initX, initY):
           ''' Create a new point at the given coordinates. '''
           self.x = initX
           self.y = initY

       def getX(self):
           return self.x

       def getY(self):
           return self.y

       def distanceFromOrigin(self):
           return ((self.x ** 2) + (self.y ** 2)) ** 0.5

       def distanceFromPoint(self, otherP):
           dx = (otherP.getX() - self.x)
           dy = (otherP.getY() - self.y)
           return math.sqrt(dy**2 + dx**2)
   ``

   b) Add a method called reflect_y to point that returns another point that is the reflection of the point about the y-axis.

   ```python
   def reflect_y(self):
       return Point(-self.x, self.y)
   ```

   c) What if we want to print the points? How can we modify the class to do that?
3) Using Classes
   a) Write a function that takes an integer $x$ and returns a list of all the (integer) points from $(0,0)$ to $(x,x)$.

   b) Why does how we create an object change depending on where our class definition resides?

   c) Write a program that uses the above function to create and draw a grid of dots with the turtle. Assume that the point class is located in its own file called point.

      i) What should the result of the program look like?
ii) Computational thinking

iii) Write the code