1. What are some Python classes/objects that we have encountered so far?
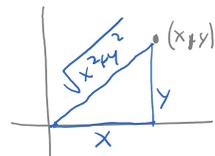
string, integer, boolean

Turtle

Numpy Array

2. What are some methods that we have encountered so far?

Turtle: left(), right(), forward, up(), ...

np.append(   )

np.mean (   )

3. Defining our own class: the `Point` class

```
1  class Point:
2      """ Point class for representing and manipulating x,y coordinates. """
                — initialization
3
4      def __init__(self, initX, initY):
5          """ Create a new point at the given coordinates. """
6          self.x = initX
7          self.y = initY
8
9      def getX(self):
10         return self.x
11
12     def getY(self):
13         return self.y
14
15     def distanceFromOrigin(self):
16         return ((self.x ** 2) + (self.y ** 2)) ** 0.5
17
18
19 p = Point(7, 6)        — calls the initializer, which returns a new Point object
20 print(p)
```

$\sqrt{x^2 + y^2}$, (x, y)

4. Let's design an Account **class to represent a bank account.**

<u>Attributes</u>

- Account balance
- User name
- interest rate
- history?
- lock box
- account number?
- debit/credit cards?

<u>Methods</u>

- deposit (amount)
- withdraw (amount)
- add interest ( )
- add new card?
- get current balance
- initializer

```
class Account:

    def __init__(self, initBal):
        self.balance = initBal

    def getBalance(self):
        return self.balance

    def deposit(self, amount):
        self.balance = self.balance + amount

    def withdraw(self, amount):
        self.balance = self.balance - amount
```