CPE/CSC 101

- Tracing Functions
     continued
- Design Recipe
     - Developing Functions
     - Testing Functions

What is your favorite movie?

Design Recipe

1) Give short description of functionality.
      (purpose statement)

2) What is the data?
    - Specify input data & type
    - Specify result type

3) Write the function header/signature
      def example (x : float, y : float) → float.

4) Develop tests.

                        two test cases
        choose example input,
             compute result   "by-hand"

```python
# Determine if two circles overlap in 2D space.
# input: first circle as Circle
# input: second circle as Circle
# result: bool indicating overlap

def circles_overlap ( circle1 : Circle,
                      circle2 : Circle)
                -> bool :
```
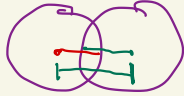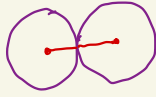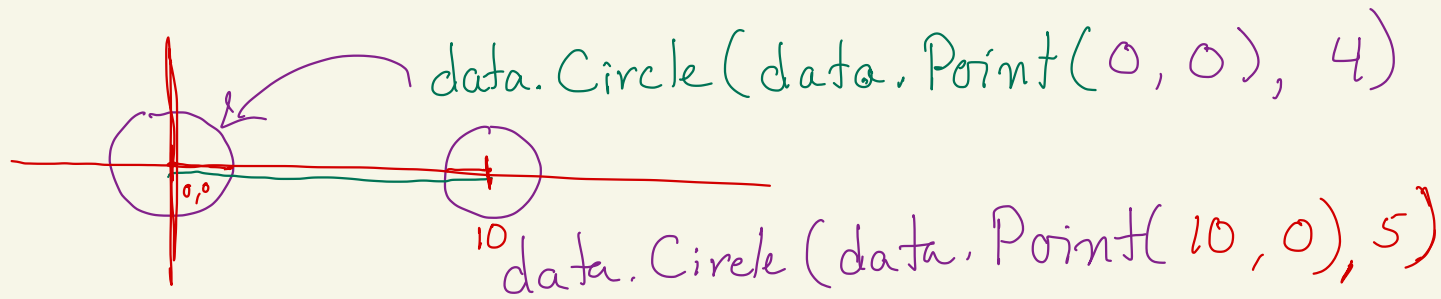
Circle object

center (Point)
radius (float)

data.Circle(data.Point(0, 0), 4)

0,0

10

data.Circle(data.Point(10, 0), 5)

tests

```python
import unittest
import funcs_objects          ← import data
                                    ↑ module/file name
class TestCases (unittest):
    def test1(self):     ← center1 = data.Point(0,0)
        circle1 = data.Circle ( center 1      , 4)
        circle2 = data.Circle (data.Point(10,0), 5)

        result = funcs_objects. circles_overlap(
                            circle1, circle2)

        self.assert False  (result)
                      or
        self.assertEqual ( result, False)
    def test2 (self):
        . . —
```