CPE/CSC 101

Today

- Boolean values
- Composite Data
  - class
  - object
  - type hints
- More on testing

$4 + (a + 2) * b // 3$

$4 + (7 + 2) * b // 3$

$4 + \underbrace{9 * b} // 3$

$4 + 9 * 9 // 3$

$4 + 81 // 3$

$4 + 27$

31

Known Values

a $\boxed{7}$

b $\boxed{9}$

PE$\boxed{\text{MD}}\boxed{\text{AS}}$

int
float

bool → True, False

$2 + 4 < 6 * 10$

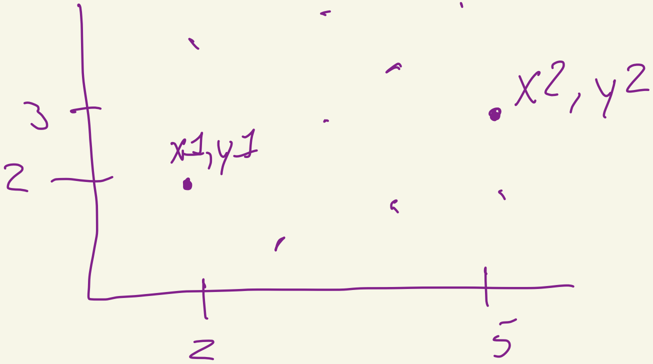
$6 < 6 * 10$

$6 < 60$

True

$x1 = 2$
$y1 = 2$

$x2 = 5$
$y2 = 3$



point

x - coordinate
y - coordinate

Class

- blueprint/template for constructing composite data

point
    x-coordinate
    y-coordinate

name of data type

type hint

```
class Point:
    def __init__(self, x: float, y: float);
        self.x = x
        self.y = y
```

```
class Point:
    def __init__(self, x: float, y: float);
        self.x = x
        self.y = y


p1 = Point(2, 2)
p2 = Point(5, 3)
```

- use class to create values
- such values are called object

(object is an *instance of* a class)

parameters

```
class Point:
    def __init__(self, x: float, y: float);
        self.x = x
        self.y = y
```

arguments

```
p1 = Point(2, 9)
```

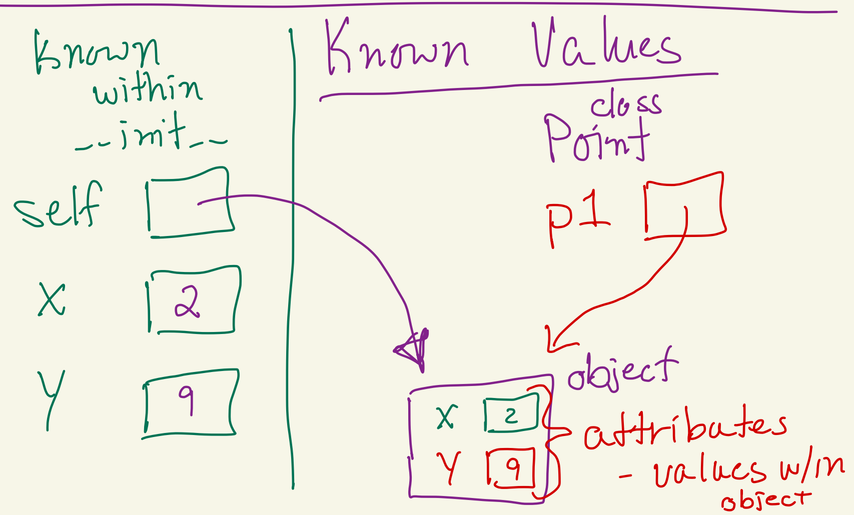
→ implicitly
- creates object (self in __init__)
- runs the __init__ in Point

go to object

set x

→ self.x = x

→ self.y = y


Known within __init__
self
x
2
y
9
Known Values
class Point
p1
object
x
2
y
9
attributes
- values w/in object