

# Classes and Object in Python

in Python, everything is an object

## types

- int
- float
- string
- list
- dictionary
- bool

```
In [1]: a = 5
        print(type(a))

<class 'int'>
```

```
In [9]: a_list = [2,5,2,8,12,6,2]
```

```
In [10]: a_list.sort()
         print(a_list)

[2, 2, 2, 5, 6, 8, 12]
```

## Create your own class

```
In [28]: class My_first_class:
         i = 5
         def f(x):
             return x**2
```

```
In [29]: my_object = My_first_class
```

```
In [30]: my_object.i
```

Out[30]: 5

```
In [31]: my_object.f(3)
```

Out[31]: 9

```
In [39]: class My_first_class:
         i = 5
         def f(x):
             return x**2
         def __init__(self, ivalue): ##implements constructor
             self.i = ivalue
```

```
In [40]: x = My_first_class(800) ## I don't understand why this isn't working as it did in lecture
```

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TypeError

Traceback (most recent call last)

<ipython-input-40-0c006445f63a> in <module>

----> 1 x = My\_first\_class(800)

TypeError: My\_first\_class() takes no arguments

```
In [24]: x.i
```

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NameError

Traceback (most recent call last)

<ipython-input-24-597c90e7035f> in <module>

----> 1 x.i

NameError: name 'x' is not defined

```
In [ ]:
```