

Objects

Announcements

Review: Mutability

Class Statements

Classes

A class describes the behavior of its instances

Idea: All bank accounts have a `balance` and an account `holder`; the `Account` class should add those attributes to each newly created instance

Idea: All bank accounts share a `withdraw` method and a `deposit` method

```
>>> a = Account('John')
>>> a.holder
'John'
>>> a.balance
0
```

balance and holder are **attributes**

```
>>> a.deposit(15)
15
>>> a.withdraw(10)
5
>>> a.balance
5
>>> a.withdraw(10)
'Insufficient funds'
```

deposit and withdraw are **methods**

The Account Class

```
class Account:
```

`__init__` is a special method name for the function that constructs an Account instance

```
def __init__(self, account_holder):  
    self.balance = 0  
    self.holder = account_holder
```

`self` is the instance of the Account class on which deposit was invoked: `a.deposit(10)`

```
def deposit(self, amount):  
    self.balance = self.balance + amount  
    return self.balance  
def withdraw(self, amount):  
    if amount > self.balance:  
        return 'Insufficient funds'  
    self.balance = self.balance - amount  
    return self.balance
```

```
>>> a = Account('John')  
>>> a.holder  
'John'  
>>> a.balance  
0  
>>> a.deposit(15)  
15  
>>> a.withdraw(10)  
5  
>>> a.balance  
5  
>>> a.withdraw(10)  
'Insufficient funds'
```

Methods are functions defined in a class statement

(Demo)

Animation Demos by Hany Farid