CPSC 231 - Lab

CLASSES AND OBJECTS
Object oriented programming

Object oriented programming is a type of programming with idea of using objects for to represent data and functionality
Object oriented programming

Class

Object

Attributes

Methods

How to define a class

class <class name>:
    <class body>

class Student():
    def __init__(self, name):
        self.name = name
What is self?

All the class functions must have an extra first name that has to be added to the beginning of the parameter list, but you do not give a value for this parameter when you call the method, Python will provide it.

class Student:
    def setName(self,name):
        self.name = name

s = Student()
s.setName("Sepehr")
How to use class attributes (in methods)?

You should use **self**

class Student:
    def set_name(self, first_name, last_name):
        self.first_name = first_name
        self.last_name = last_name

    def get_full_name(self):
        return self.first_name + " " + self.last_name
How to use a class?

Step one: Create an instance

```python
student1 = Student()
```

Step two: call methods or use attributes

```python
Student1 = set_name("Sepehr", "Sabour")
student1.get_full_name()
print(student1.first_name)
```
What is a constructor

Constructor is a mandatory function in a class

When you create an instance of a class you call constructor function

class Student:
    def __init__(self, first_name, last_name):
        print("You created an instance of Student class")
        self.first_name = first_name
        self.last_name = last_name
How to define a constructor

```python
def __init__(self):
    "_" two times
    "_" two times

Mandatory parameter
```