

08. Python Object Oriented Programing

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Outline

- Objectives
- Object Oriented Programing (OOP) Conceptually
- Classes: the blueprint
- Objects: instances of classes
- Practical examples
- Review of Objectives
- Gist for the day

Objectives

- Understand the concept of Object Oriented Programing
- Understand classes
- Understand objects
- Understand attributes
- Understand methods

Object Oriented Programing (OOP) Conceptually

- Think for a moment how coding feels a lot like writing tons of incomprehensible text
- Imagine a world where programming doest have to be incomprehensible
- Also imagine where components much like in real life are fitted together
- That world exists
- Everything can be thought of as objects

Classes: the blueprint

- To have objects they have to come from a blueprint or mold
- In architecture there's a plan
- These are used to create multiple objects that look the same and act the same in their core
- They may have differences in attributes such as location, color, etc but at the core, they are all the same because they come from the same mold
- These moulds are classes

```
person1 = Student('David', 'Lee', 'Melbourne, Australia')
person2 = Student('Ahmed', 'Ali', 'Doha, Qatar')

university1 = School('University of Lagos', 'tertiary')
university2 = School('Oxford University')

person1.current_school = university2
person2.current_school = university1

person1.enroll(university1, 'Space Technology')
person1.enroll(university2, 'Strategic Studies')
person2.enroll(university1, 'Economics')

print(person1.get_schools())
print(person1.get_courses())

print(person2.current_school.get_students())
```

Objects: instances of classes

- Objects are instances of classes
- There can be multiple objects that are instances of a class
- Each object is an entity of its own
- Objects have attributes - things that make them unique
- Objects have methods - things that they can do or can be done to them

Practical examples

- `dir()` and `help()` methods

- Strings
- Lists
- Dictionaries

Review of Objectives

- Understand the concept of Object Oriented Programming
- Understand classes
- Understand objects
- Understand attributes
- Understand methods

Gist for the day

- Get the pdf version of this class notes
- Get the gist
- Get the kaggle file for Excel practice => Disease Outbreaks in Nigeria

Q&A

Thanks!