



Computing Fundamentals using Python

SUBJECT CODE : UQ25CA151A

Samyukta D Kumta
Computer Applications

Python Objects and Classes

- An object is a fundamental building block of an object-oriented language
- In Python, everything is an object. From simple numbers to complex data structures.
- An object is a piece of data in memory that has attributes (data) and methods (behaviors).
- Object instances are created from classes, which serve as their blueprints.
- Python is object-oriented, meaning it focuses on objects and their interactions

Python Objects

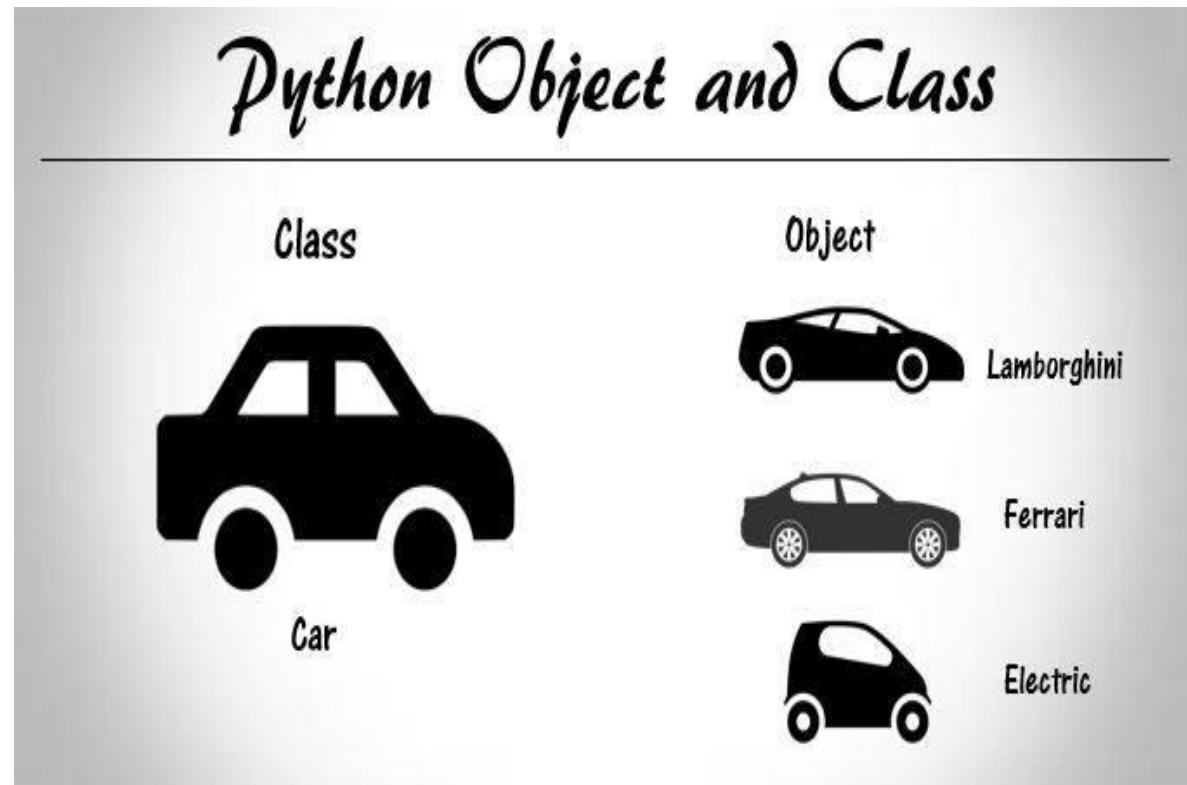
Example

Class = Blueprint / Template

Object = Actual Thing created from
the Blueprint

Class: Car Design (blueprint: wheels,
engine, color)

Object: Lamborghini, Ferrari, Electric
(real cars made from the blueprint)



Python Objects

Real-Time Examples of Class and Object

Students in a College

Class → Student

Attributes (data) → name, age, roll_no, course

Methods (behavior) → study(),
introduce(),
write_exam()

Objects → s1 = Student("Anita", 20, 101),
s2 = Student("Rahul", 21, 102)

Python Objects

Real-Time Examples of Class and Object

Banking Application

Class → Account

Attributes → account_number, holder_name, balance

Methods → deposit(),
withdraw(),
check_balance()

Objects → acc1 = Account(123, "Meena", 5000),
acc2 = Account(124, "Raj", 10000)

Python Objects

Multiple Choice Questions

1. In Python, a class is best described as:

- A) A real-world object
- B) A function
- C) A blueprint for creating objects
- D) A built-in module

Python Objects

Multiple Choice Questions

2. Which statement about class and object is true?

- A) A class is an instance of an object
- B) An object is a blueprint of a class
- C) A class is a blueprint, and an object is an instance of that class
- D) Classes and objects are the same

Python Objects

Multiple Choice Questions

3. If we create two objects from the same class, they:

- A) Share the same memory for attributes
- B) Always overwrite each other's data
- C) Can have different values for attributes
- D) Cannot exist at the same time

Python Objects

Scenario based Questions

1. In a school, many students are studying in different classes. Each student has a name and a roll number. For example, Anita is a student with roll number 101, and Rahul is another student with roll number 102.

Question: In this scenario, what will be the **Class**, and what will be the **Objects**?

Python Objects

Scenario based Questions

2. In a bank, customers hold different bank accounts. Each bank account has an account number and a balance. For example, one account has the number 12345 with ₹5000 balance, and another account has the number 67890 with ₹10,000 balance.

Question: What is the **Class**, and what are the **Objects** here?

Python Objects

Scenario based Questions

3. A company employs several workers. Each employee has a name and an employee ID. For example, one employee is Kiran with ID E101, and another is Sam with ID E102.

Question: Find the **Class** and the **Objects**.



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THANK YOU

Samyukta D Kumta
Department of Computer Applications
samyuktad@pes.edu