PYTHON OOPS CONCEPTS

In Python, object-oriented Programming (OOPs) is a programming paradigm that uses objects and classes in programming.

OOPs Concepts in Python

- Objects
- Class
- Polymorphism
- Encapsulation
- Inheritance
- Data Abstraction

Python Objects

The object is an entity that has a attributes and behavior associated with it.

Example :

Dog

Attributes : name,age,color.

Behaviour : Running,Jumping,Barking.

Python Class

A class is a collection of objects.

Example:

A class room contains many students.Each student is an object.So we can say that the class room is collection of objects that means students

Python Inheritance

Inheritance is the capability of one class to derive or inherit the properties from another class.

Example :

Parent and child

The child will have any of the character of parent

Types of Inheritance

• Single Inheritance: Single-level inheritance enables a derived class to inherit characteristics from a single-parent class.

• Multilevel Inheritance: Multi-level inheritance enables a derived class to inherit properties from an immediate parent class which in turn inherits properties from his parent class.

• Hierarchical Inheritance: Hierarchical-level inheritance enables more than one derived class to inherit properties from a parent class.

• Multiple Inheritance: Multiple-level inheritance enables one derived class to inherit properties from more than one base class.

Python Polymorphism

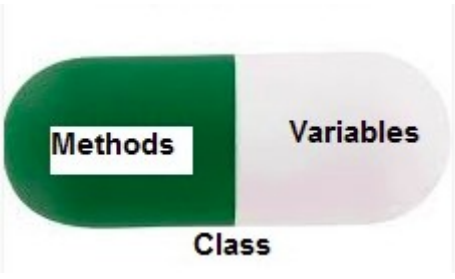
Polymorphism simply means having many forms.

Example

Birds ->parrot,sparrow,pigeon.

Python Encapsulation

Wrapping up of data into single unit,Example:Capsule



Data Abstraction

It hides unnecessary code details from the user.

Example : Switch Board