

Python

Introduction to OOP



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Agenda

- ① Procedure Oriented Programming
- ② Object Oriented Programming
- ③ Main aspects of OOP
- ④ Encapsulation
- ⑤ class
- ⑥ object

Procedure Oriented Programming

All the programs we have created so far are around functions, that is block of statements which manipulates data.

This is called procedure oriented way of programming.

Object Oriented Programming

There is another way of organising your program, which is to combine data and functionality and wrap it inside something called an object.

This is called Object Oriented way of programming.

This approach is more suitable to large programs.

Main Aspects Of OOP

- ① Encapsulation classes and objects
- ② Inheritance
- ③ Polymorphism

Encapsulation

An act of combining properties and methods related to the same entity is called encapsulation.

OOP in real world programming

Common Noun - class

Proper Noun - object

class

↳ variables
↳ functions

dilip. deposit(acc, 3000)

yahul . withdraw (acc, 2000)



Class

- class is a keyword
- class is named
- class encapsulates data and functions
- creating class is creating a new data type
- class is a description of an object
- class is a blueprint of an object
- int, float, complex, bool, list, range, tuple, set, dict, str, etc. are classes

In Class

properties } attributes
methods }

Object

- Object is an instance of a class
- Object is a real world entity
- Instance = object = instance object
- You can create any number of objects of a class

$x=5$
 $y=6$
 $z=7$

x, y, z refers to
three different objects of
int class