

Object Oriented Programming



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Agenda

- **Introduction to OOP**
- **Encapsulation**
- **Classes**
- **Objects**
- **`__init__()` method**

Programming Paradigm

❖ Python support 3 Programming Paradigms

1. Procedural Oriented Programming

- Procedural programming focuses on procedures or functions that perform specific tasks.

2. Functional Programming

3. Object Oriented Programming

Introduction to OOP

- **Object-oriented programming (OOP) in Python is a programming paradigm that revolves around the concept of objects and classes.**
- **In Python, objects are instances of classes, which are blueprints or templates that define the properties and behavior of an object.**

Encapsulation

- An act of combining **properties** and **methods** related to the same entity is known as **Encapsulation**.

	Person	Employee	Book
▪ Properties →	Age, name	id, name, salary	Bookid, title, price
▪ Methods →	setName(), setAge(), printData()	setId(), setName(), setSalary()	inputData(), outputData(), UpdateData()

Classes

- **class is a group of variables and functions**
- **class is a description of an object**
- **class is a common noun**
- **class provides a blueprint for its objects**
- **class is a way to implement concept of encapsulation**

Objects

- **Object is a real world entity**
- **Object is an instance of a class**
- **object is a proper noun**
- **object has a **state** and **behaviour****

State → **object state** is a set of values at particular instant.

Behaviour → **Behaviour** of an object is set of actions it can perform

Class Code

`__init__()` method

```
class Test:
```

```
    def __init__(self):
```

```
        self.name = None
```

```
        self.Age = None
```

```
        self.MobNo = None
```

```
    def Input_Data(self):
```

```
        self.name = input("Enter Name : ")
```

```
        self.Age = input("Enter Age : ")
```

```
        self.MobNo = input("Enter MobNo : ")
```

```
    def Show_Data(self):
```

```
        print(self.name, self.Age, self.MobNo, sep='\\n')
```

