

Assignment: 06

Object-oriented Programming Language:

Object oriented programming language is a high level programming language which implements objects and their associated properties and procedures within the programming context to create programs.

- It uses OOP technique to bind related data and its function into an object.
- It encourages the reuse of these objects.
- Example: Python, Java, C++, SmallTalk etc.

Benefits Of OOP:

- It provides modular structure.
- Complex problems can be done easily.
- Implementing details are hidden from other modules.
- OOP provides the concept of inheritance, encapsulation, abstraction, polymorphism.
- Real life scenarios are implement easily and efficiently.
- Code is reusable and is easy to modify.
- Helps in developing large projects time and cost efficiently.

Function vs. Methods

- Functions are defined outside the class.
- It is the piece code that is called by name and is independent of object.
- A function can only operate on its data or the data supplied to it (using another function etc).
- Methods are defined inside the class.
- It is also the piece of code that is called by name but it is implicitly passes the object on which it was called.
- A method is able to operate that is contain within the class.

Class

Class is the blueprint of an object.

➤ **Example:**

- `class MyClass:`
 `pass`

Object

Object is an abstract data type created by user which can include properties, methods and even other objects.

➤ `Obj1 = MyClass1()`

Attribute

Attribute is the property of an object.

- Attribute stores the information about the object.
- It represent the state or quality of a class.

Behavior

Behavior is the functionality of an object.

- It is defined by method.
- It determines what type of functionality a class has and how it modifies data.