**ASSIGNMENT 6**

**Q1: Define Object Oriented Programming Language?**

**A1:** Object-oriented language (OOL) is a high-level computer programming language that implements objects and their associated procedures within the programming context to create software programs.

Object-oriented language uses an object-oriented programming technique that binds related data and functions into an object and encourages reuse of these objects within the same and other programs.

**Q2: List down the Benefits of OOP?**

**A2:**

• OOP provides a clear modular structure for programs.

• It is good for defining abstract data types.

• Implementation details are hidden from other modules and other modules has a clearly defined interface

• It is easy to maintain and modify existing code as new objects can be created with small differences to existing ones.

• Objects, methods, instance, message passing, inheritance are some important properties provided by these particular languages

• Encapsulation, polymorphism, abstraction are also counts in these fundamentals of programming language.

• It implements real life scenario.

• In OOP, programmer not only defines data types but also deals with operations applied for data structures.

**Q3: Differentiate between function and method?**

**A3:**

**Function:**

A function is a block of code to carry out a specific task, will contain its own scope and is called by name. All functions may contain zero (no) arguments or more than one arguments. On exit, a function can or cannot return one or more values

## Method

A method in python is somewhat similar to a function, except it is associated with object/classes. Methods in python are very similar to functions except for two major differences.

1. **The method is implicitly used for an object for which it is called.**
2. **The method is accessible to data that is contained within the class.**

**Q4: Define the following terms:**

**1. Class**

**2. Object**

**3. Attribute**

**4. Behavior**

**A4:**

**CLASS:**

In object-oriented programming, a class is a template definition of the method s and variable s in a particular kind of object. Thus, an object is a specific instance of a class; it contains real values instead of variables.

**OBJECT:**

In object-oriented programming (OOP), objects are the things you think about first in designing a program and they are also the units of code that are eventually derived from the process. In between, each object is made into a generic class of object and even more generic classes are defined so that objects can share models and reuse the class definitions in their code. Each object is an instance of a particular class or subclass with the class's own methods or procedures and data variables. An object is what actually runs in the computer.

**ATTRIBUTE**:

In general, an attribute is a property or characteristic.

**BEHAVIOR**:

 Determined by how the object acts or reacts to requests (messages) from other objects.