ASSIGNMENT # 06

Question 1:

Define Object Oriented Programming Language?

Answer 1:

**Object Oriented Programming Language:**

An Object oriented programming language is a high level programming language based on the object oriented model. To perform Object Oriented programming, one needs an object oriented programming language. The core of the pure object oriented programming is to create an object in code that has certain properties and method. For example a car is an object which has certain properties, such as color, number of doors and the like. It also has certain method such as accelerate, brake and so on.

Question 2:

List Down the benefits of OOP?

Answer 2:

**Benefits of OOP:**

* Improved software-development productivity
* Faster development
* Reuse of code through inheritance
* Modularity of easier troubleshooting

Question 3:

Difference between Function and Method

Answer 3:

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| --- | --- |
| **FUNCTION** | **METHOD** |
| Python function is a sequence of statements that execute in a certain order, given a name. They let us implement code reusability. | Python method is like a function, except it is attached to an **object.**We call a method on an object, and it possibly makes changes to that object. A method, then, belongs to a class |
| If **any data (parameters)** are passed, they are **passed explicitly**. | A method is **implicitly passed the object** on which it is invoked. |
| Function does not deal with Class and its instance concept. | A method **can operate on the data (instance variables) that is contained by the corresponding class** |

Question 4:

Define the following terms:

1. Class
2. Object
3. Attribute
4. Behavior

**Class:**

When you define a class, you define a blueprint for an object. This doesn't actually

define any data, but it does define what the class name means, that is, what an object

of the class will consist of and what operations can be performed on such an object.

**Object:**

This is the basic unit of object oriented programming. That is both data and function

that operate on data are bundled as a unit called as object.

**Attribute:**

Python provides two scopes for attributes: class attributes and instance attributes.

* Class Attribute
* Instance Attribute

**Class Attribute:**

A class attribute is a Python variable that belongs to a class rather than a particular object. It is shared between all the objects of this class and it is defined outside the constructor function of the class.

**Instance Attribute**:

An instance attribute is a Python variable belonging to one, and only one, object. This variable is only accessible in the scope of this object and it is defined inside the constructor function of the class.

**Behavior:**

Behaviors are actions that can occur on an object. The behaviors that can be performed on a specific class of object are called **methods**.