**Assignment # 6**

**Question 1: Define Object Oriented Programming Language?**

**Answer :**

OOP concepts in Java are the main ideas behind Java’s Object Oriented Programming. They are an **abstraction , encapsulation ,** [**inheritance**](https://stackify.com/oop-concept-inheritance/), and [**polymorphism**](https://stackify.com/oop-concept-polymorphism/). Grasping them is key to understanding how Java works. Basically, Java OOP concepts let us create working methods and variables, then re-use all or part of them without compromising security.

**Question 2: List down the Benefits of OOP?**

**Answer :**

1. Modularity for easier troubleshooting
2. Reuse of code through inheritance
3. Flexibility through polymorphism
4. Effective problem solving

**Question 3: Differentiate between function and method?**

**Answer Function**

* Functions are defined in structural language
* Function are self contained program they have return some values and the functions are defined in structured languages like Pascal,C.
* Functions are called independently.

**Method**

* While methods are those do not have independent existence they are always defined with in class. Ex:- main() method in java Language that is defined with in a class.
* Methods are called using instance or object.
* Methods are defined in object oriented languages.
* Methods are used to manipulate instance variable of a class

**Question 4:**

**Define the following terms**:

1. **Class :** A class is an entity that determines how an object will behave and what the object will contain. In other words, it is a blueprint or a set of instruction to build a specific type of object.

Syntax

class <class\_name>{

field;

method;

}

1. **Object** : An object is nothing but a self-contained component which consists of methods and properties to make a particular type of data useful. Object determines the behavior of the class. When you send a message to an object, you are asking the object to invoke or execute one of its methods.

**Syntax**

ClassName ReferenceVariable = new ClassName();

1. **Attribute**

object oriented programming two attributes, [storage class](https://www.ozedweb.com/infotech/it_oops_lesson23_attributes.htm#1) and [type](https://www.ozedweb.com/infotech/it_oops_lesson23_attributes.htm#1) are used as 'identifiers'. Together these attributes allow data to be checked for correct functioning

1. **Behavior**

The behavior of an object is defined by its methods, which are the functions and subroutines defined within the object class. Without class methods, a class would simply be a structure