**Core Java - Assignment**

**Module - 1**

1. **Classes and Objects :**

**Theory : -**

1. Defining class and object in Java

-> Class is like blueprint or template for creating objects.

-> It defines properties and behaviour that object of that class can use.

-> class doesn’t allocate memory itself.

Object -> it is an instance of class. Memory is allocated when object created. When you try to create object of class you have to use new keyword to allocate memory for object.

1. Constructors and overloading

-> Constructor has name as class name and it called automatically when object is created.

-> Constructor doesn't have any return type

-> it has three types : 1. default constructor, 2. parametrize constructor, 3 Copy constructor

1. Default constructor : it has no arguments when it is defined.
2. Parametrize constructor : it has argument when you define it you can make multiple parameter constructor based on different parameter.
3. Copy constructor : it creates a new object as a copy of existing class and takes object in parameter of same class.

3. Object creation and Accessing member of the class.

-> Classes are blueprint for creating objects. Objects are instances of classes which can access properties and methods define by class.

-> To create an object of a class, you typically use the new keyword. This allocates memory for the object and initializes its members.

-> Once you have an object, you can access its members using the dot (.) operator.

4. This keyword

-> The this keyword is a special reference variable that refers to the current object. It's particularly useful in several scenarios.

-> When you have a local variable with the same name as an instance variable, you can use this to differentiate between them.

-> You cannot use this in static methods or code blocks.

-> It's essential for distinguishing between local and instance variables.

-> It's helpful for method chaining and event handling.