**Day 4:**

Java OOPs concept

**object**  : object is any real-world entity or instance of class.

Property or state -🡪 have -🡪 variable or fields, name/age/height

Person

Behaviour -🡪do/does --🡪 method or functions, teaching, listening, talking

Bank

Animal

Car

Customer

Laptop

Object is concept.

**class** :class is a blue print of object or template of object or user defined data types which help to describe the object.

syntax

class Car{

int wheel;

double price;

String color;

void start(){

coding

}

void appliedGear() {

}

void moving() {

}

void stop() {

}

}

**Syntax to create the object**

**className objectName = new Classname();**

**objectName.methodName();**

**objectname.variableName=value;**

Types of variable or fields

In Java variable are divided into 3 types.

1. Instance variable
   1. The variable which declared inside a class but outside a method including main method is known as instance variable.
   2. The instance variable hold default value base upon type of variables. Int family 🡪 0, float family 🡪 0.0, char 🡪 space, String 🡪 null, boolean 🡪 false
   3. We can access instance variable directly inside method but variable is part of same class and method must be non static.
2. Local variable
   1. The variable which declared inside a method is known as local variable.
   2. Local variable doesn’t hold default value. While using we need to initialize those variable.
   3. Scope the variable within that method where it declared.
3. Static variable

**Method syntax**

returnType methodName(parameterList) {

method body;

}

**void** : to return type

int, float, char, String or boolean : that type of value need to return when then method get called. If we use in place of void any other data types.

**parameterList**: while calling method we can pass different type of values that type we need to use parameterList.

1. Method no passing parameter as well as no return type

void start() {

}

1. Method passing parameter but no return type

void add(int a, int b) {

int sum = a+b;

System.out.println(“sum ”+sum);

}

1. Method passing parameter and return value.

String sayHello(String name) {

// coding

return “Welcome user”+name;

}

String addNumber(int a, int b) {

int sum = a+b;

return “Sum of two number is “+sum;

}

Constructor : Constructor is a type of special method which help to create the memory.

While writing the constructor we need to remember few points.

1. Constructor have same name as class itself.
2. Constructor no return type, not even void also.
3. Constructor no need to call it will call automatically whenever we create the object.
4. If we not write any constructor by default JVM(Java Virtual machine) provide default constructor. Default constructor always empty or no passing parameter constructor
5. If we write explicitly empty or parameter no default constructor.

Constructor is use to do some initialization whenever memory get created.

In the life of the object if we want to perform any task only one time that type of task you need to write inside a constructor it may be empty or parameter. in the life of the object you want to perform any task more than one time that type of task you need to write inside a method.

this keyword :

this keyword refer to current object.

1. Whenever local variable and instance variable same name local variable hide the visibility of instance variable using this keyword you can refer to instance variable.