**Java technologies**

Java is a platform (OS) independent and pure object oriented programming language.

OOPs

object: object is any real world entity.

Property or state ---🡪 have -🡪 name, age, etc

**Person**

Behaviour -🡪 do/does --🡪 teaching(), sleeping() etc

Car

Animal

Customer

Employee

**class :** class is blue print of object or template of object or user defined data type which help to crate the object or memory.

Java 1.0 to java 24/25

**1.8**

**17 (spring boot)**

**Syntax of class**

class ClassName {

variable declaration

method declaration

}

class Test {

public static void main(String args[]) {

System.out.println(“Welcome to Java”);

}

}

**Data types:** Data types is a type of data which tells what type of data it can hold.

In Java data types are divided into 2 types.

1. Primitive data type : it is use to store only value

8 types

1. Byte 1 byte -128 t0 127
2. Short 2 byte
3. Int 4 byte
4. Long 8 byte

Without decimal

1. Float 4 byte
2. Double 8 byte

With decimal

1. Char single character 2 byte
2. Boolean true or false. 1 bit
3. Non primitive data type or reference data type : it is use to hold value as well as reference of another data types.

**Type casting :**

Converting one data type to another data type is known as type casting.

2 types

* 1. Implicit type casting
  2. Explicit type casting

Int family

-----------------------🡪 implicit -----------------------------🡪

byte short int long

🡨---------------- explicit ------------------------------------

By default any decimal number in java double consider.

Operator

If statement

Looping : while loop, do while loop and for loop

**array :** array is non primitive or reference data which is use to store more than one value of same types.

Syntax

datatype variableName[];

int a;

int abc[]; declaration

int xyz[]={10,20,30,40,50,60}; declaration with initialization

xyz[0];

xyz[1];

creating the memory for array

int num[]=new int[10]; int num[10] in C language

local variable doesn’t hold default value. (the variable which declared inside a methods is known as local variable).

**Enhanced loop or for each loop**

Syntax

for(datatype varibleName :arrayName) {

}

Syntax to create the object

ClassName objectName = new ClassName();

In Java field or variable mainly divided into 3 types.

1. Instance variable
2. The variable which declared outside method including main method is known as instance variable.
3. Instance variable hold default value base upon their data types like int 0, float family 0.0, char space, Boolean false, String null etc.
4. We can access instance variable directly inside all method but method must be part of same class and it must be non static.
5. Local variable
   1. The variable which declared inside a method is known as local variable.
   2. Local variable doesn’t hold default value we need to initialize.
   3. The scope of that variable within that method where it declared.
6. Static variables

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

Pts

1. Constructor have same name as class itself.
2. Constructor doesn’t contain return type not even void also.
3. Constructor no need to call it will call automatically whenever we create the object.
4. Constructor mainly use to do some initialization.
5. By default java provided default constructor with empty logic.

Empty constructor

We can write parameter constructor

**this** keyword : this keyword is use to refer to current object. this is a keyword we can use with instance variable when local or parameter variable have same name. then local or parameter variable hide the visibility of instance variable. To refer instance variable we use this keyword.

**Encapsulation :** Binding or wrapping data (variable) and code( methods) in a single unit is known as Encapsulation.

Example : class

**Java Bean class**

1. class must be public.
2. All variable must be private.
3. For each method we need to provide setter and getter methods.
4. Setter method is use to set the value with condition if required.
5. Getter method is use to get the value.
6. Setter method name is set followed by variable name and getter method get followed by variable name.

public class Customer {

private String name;

private int age;

public void setName(String name) {

this.name = name;

}

public String getName() {

return name;

}

public void setAge(int age) {

this.age=age;

}

public int getAge() {

return age;

}

}