

Assignment - 15 (Static Keyword In Java)

1. Why do we need static keyword in java Explain with an example?

Ans: The static keyword in java is used for memory management. Suppose you want that each object of that class can access the value of a particular variable then you should declare the variable with static keyword.

```
import java.util.Scanner;
class Farmer{
    int p;
    float t;
    float si;
    static float r;
    static{
        r = 8.5f;
    }
    void input(){
        Scanner sc = new Scanner(System.in);
        System.out.println("Please Enter the principal amount:");
        p = sc.nextInt();
        System.out.println("Please Enter the time duration:");
        t = sc.nextFloat();
    }
    void compute(){
        si = (p*r*t) / 100;
    }
    void disp(){
        System.out.println("The SI calculated is: "+si);
    }
}
public class FarmerLoan {
    public static void main(String[] args) {
        Farmer f1 = new Farmer();
        f1.input();
        f1.compute();
        f1.disp();
        Farmer f2 = new Farmer();
        f2.input();
        f2.compute();
        f2.disp();
    }
}
```

2. What is Class Loading and how does the Java program actually executes?

Ans: Class loading is the process of loading class files into the JVM at runtime. It is responsible for loading classes from various sources, such as file system, network and databases, and making them available to the JVM for execution.

Class Loading process in java is divided into three phases :-

- a). Loading
- b). Linking
- c). Initialization

When you write your code first step is that you compile the code and compiler generated bytecode and then the bytecode is loaded in the JVM and at runtime all the object creation take

place and then the byte code is send to execution engine in which interpreter interprets and convert into machine code and then further execution takes place.

3. Can we mark a Local Variable as static?

Ans: No you can not mark a local variable as Static because memory will be allocated to static variables at the time of class loading and to local variables at the time of object creation.

4. Why is Static block is executed before the main method in Java?

Ans: Static block is executed before the main block because it is the inbuilt system of JVM that at the time of class loading the blocks, variables with static keyword gets allocated in the memory and then the further program gets executed.

5. Why is Static Method is also called a Class Method?

Ans: Static method is also called class method because static method is bound to the Class and not the instance of the class.

6. What is the use of Static Blocks in Java?

Ans: Static blocks in java is used for Changing the default value of static variables, initializing static variables of the class, write a set of codes that you want to execute during the class loading in memory.

7. Difference between Static and Instance Variables?

Ans: Static Variables is a variable whose memory allocation takes place at the time of class loading and Instance variables are those variables whose memory allocation takes place at the time of object creation.

8. Difference between Static and Non-Static Members?

Ans: Static members belongs to the Class so it can be accessed by any instances of the Class but Non-Static members are those which are specific to that instance of the Class, so it is only accessible to the specific instances.