Static Keyword

1. Why do we need static keyword in Java Programming?

Ans: The static keyword in Java i used to indicate that a member belongs to a class rather than an

instance of a class. This mean that the member can be accessed without having to create an

instance of the class

Here are some common uses of static in Java:

i)To create class-level variable that are shared by all instance of class

ii)To create class-level method that can be called without creating inheritance of a class

iii)To create a block of code that is executed when a class is loaded.

2. What is class loading and how does the Java program actually execute?

Ans: **Class Loading:**

In Java, class loading is the process of loading class file into the JVM (Java Virtual machine) at

runtime. It is responsible for loading class from various source, such as the file system, network,

and database, and making them available to the JVM for execution. The class loading approach in

Java is divided into three phases: loading, linking, and initialization.

3. Can we mark a local variable as static?

Ans: No, we cannot mark a local variable with a static keyword.

4. Why is a static method also called a class method?

Ans: A static method is also called a class method because it ties to class rather than an individual

instance of a class. Therefore, we need not to create an object of the class to call and execute a

static method.

5. Why is the static block executed before the main method in java?

Ans: When the dot class file is loaded into memory, a static block if executed. After executing the

static block, JVM call the main method to start execution. Therefore, the static block is executed

before the main method.

6. What is the use of static keyword Explain with an example?

Ans: The static keyword in Java is used to indicate that a member belongs to a class rather than an instance of a class. This means that the member can be accessed without having to create an instance of the class.

Here is an example that demonstrates the use of the static keyword in Java:

```
public class Counter {
private static int count = 0;
public Counter() {
count++;
}
public static int getCount() {
return count;
   }
}
```

7. The difference between a static variable and instance variable is as follows:

Ans: i) A static variable is also called a class variable whereas an instance variable is also called a non-static variable.

ii)Class variables can be accessed inside a static block, instance block, static method, instance method, and method of the inner class whereas, instance variable can be accessed only inside the instance members, and method of the inner class.

iii)Class variable is always resolved during compile time whereas, instance variable is resolved during the runtime.

iv)Static variables cannot be serialized in Java whereas instance variables can be serialized.

8. Difference between static and non-static members of a class?

Ans:

static:

« These variables are called “class variables”.

« These variables will get memory in the method area.

« If the value does not change from object to object, then we need to use

Non-static:

« Inside a static area we can access static variables only.

« Static variables are created using static keywords.

« These variables are called “instance variables”.

« These variables will get memory in the heap area.

« If the value changes from object to object, then we need to use.