

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

Sol. In Java, the static keyword is used to declare a class-level variable or method that belongs to the class itself rather than an instance of the class.

```
public class ExampleClass {  
    // static variable  
    static int staticVar = 5;  
  
    // instance variable  
    int instanceVar = 10;  
  
    // static method  
    static void staticMethod() {  
        System.out.println("This is a static method.");  
    }  
  
    // instance method  
    void instanceMethod() {  
        System.out.println("This is an instance method.");  
    }  
}
```

2. What is class loading and how does the java program actually executes.

Sol. The Java ClassLoader is a part of the Java Runtime Environment that dynamically loads Java classes into the Java Virtual Machine. The Java run time system does not need to know about files and file systems because of classloaders. Java classes aren't loaded into memory all at once, but when required by an application.

3. Can we mark a local variable as static.

Sol. You can use Static only on local variables. This means the declaration context for a Static variable must be a procedure or a block in a procedure, and it cannot be a source file, namespace, class, structure, or module. You cannot use Static inside a structure procedure.

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

Sol. The static blocks always execute first before the main() method in Java because the compiler stores them in memory at the time of class loading and before the object creation. Here, the compiler executes all the static blocks first, and after finishing the static block execution, it invokes the main() method.

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6. What is the use of static blocks in java.

Sol. Static block 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.