Assignment questions

1) why do we need static keyword in java explain with an example ?

Ans In Java, the 'static' keyword is used to create class-level variables and methods that belong to the class rather than instances of the class. It allows access without creating an object of the class.

example

```
Java
Public class Example {
        static int count = 0;
        static void
  increment count ( ) {
            count++;
      }
        Public static void
  main ( String [] args ) {
    Variable
  System.out.println("count
  before increment: " +
  Example.count);
  method
  Example.increment count();
  static Variable
  System.out.Println("count after
```

increment: " + example.count);
}
}

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 Java classes and interfaces into the Java virtual machine (JVM) from the compiled Java bytecode.

- Java program execution: Java programs are executed by the JVM. The process involves class loading, followed by initialization, and then the execution of the main method.
why is the static block executed before the main method

3) can we mark a local variables as static in java

Ans The static block in Java is executed before the main method because it is designed to initialize static variables or perform other one-time actions when the class is loaded, ensuring they are done before any instances or methods of the class are invoked.

3) can we mark a local variables as static?

Ans No, you cannot mark a local variables as 'static' in Java. The 'static' keyword is used for class-level variables and methods, not for local variables. Local variables exist only within the scope of the method, block, or constructor where they are declared, and they don't have a static context.

5) Why is a static method also called a class method?

Ans A static method is also called a class method because it belongs to the class rather than an instance of the class. It can be called on the class itself, not requiring an instance to invoke it.

6) What is the use of static blocks in Java?

Ans The static block in Java is used for initializing static variables or performing one-time action when the class is loaded.

7) Difference between static and instance variables?

Ans * Instance variable: * Belongs to an instance of a class.

* Non-static variables: * Belongs to the class itself, shared among all instances.

8] Difference between static and non static members?

Ans ** static variable: ** Shared among all instances of a class.

* Non-static variables: * Each instance has its own copy.