**Static Keyword Assignment**

**Q1. Why do we need static keyword in java explain with an example?**

**Ans.** A static keyword is basically used for memory management in java ,

* It can be used as static variables , static blocks , class method etc.
* At the time of class loading memory will be allocate for Static variable in heap area, also default value of variable also allocated.
* Static variable and static block is also execute before than main method.
* Once Static variable is created we can use the value of Static variable multiple times without creating objects multiple time .

**Q2. What is the class loading and how does the java program actually executes?**

**Ans.** **Class Loading:-** In java , class loading is the process of load class file into JVM at the runtime. It is responsible for loading the classes from various sources such as network , database , system etc and making them available for execution by JVM.

For class loading we have three phases:-

* Loading
* Linking
* Initialization

**Java Program execute path:**

Class loader (Sub - system

.class file (Byte code)

Execute Engine

**Operating System**

Interpreter

JIT Compiler

Runtime Data Access

Method   
 Area

Stack Area

PC Register Area

Heap Area

Native Method Stack

**Q3. Can we mark a local variables as static?**

**Ans**. NO.

**Q4. Why is the static block is executed before the main method in java ?**

**Ans.** First of all it’s a rule of java that static variables , static blocks only will execute before than main method.

* Secondly at the time of class loading memory will be allocated for the static variables in a heap area.
* For the main method memory will not allocated at the time of class loading.
* If we want to call any method , function we have to create its object first until we can’t call it , but for Static variables it is not mandatory.
* If only main method is present in a scope then JVM has already coded for call and execute.

**Q5. Why is the static method also called a class method?**

**Ans**. A static keyword is property of a class rather than instance of a class, that means we can call the static method without creating a object of a class. Sometimes static method called as class method.

**Q6. What is the use of static blocks in java ?**

**Ans**. Static block basically used for initialization process.

{

Whatever we written inside the curly braces known as initialization .

}

If we only declare the static variables and not initialize them how it will execute. So that’s why static block is very important.

**Q7. Difference between static and instance variable?**

**Ans**. **Static variable:-** A variable is said to be static when a copy of same data will required to use among multiple times , without creating a multiple objects in a memory. In static variables memory will allocated at the time of class loading and memory will allocate only once but we can use the value several times. This will increase the efficiency and performance of a code as well as memory.

**Instance variable:-** In instance variable a copy of same data will not use multiple times , everytime we have to create instance , everytime we have to create objects , every time the value will allocate for variables in memory that will covers so much space in the memory and reduces performances of memory too.

**Q8. Difference between static and non - static members?**

**Ans**. Difference between both are:-

* Static member is a object – independent but non static is object dependent.
* In non - static member we can call a static variables.
* In static member we cannot call non – static members.
* Static variables also called as class variables