**Q1: when static variables loaded in memory?**

They are loaded at runtime before the object of the respective class is loaded.

**Q2: what are different segments of memory ?**

Stack segment: Contains Local variables and Reference Variables.

Heap segment: contains all created objects in runtime, Object and object attribute (instance variables)

Code Segment: this segment contains actually compiled java bytecode.

Q3: **Does garbage collection guarantee that a program will not run out of memory?**

Garbage collection does not guarantee that program will not run out of memory. It is possible for program to use up memory resources faster that garbage collector.

It is possible for a program to create to create objects that are not subject to garbage collector. All the data that is not allocated space in heap are not subject to garbage collection.

**Q4: what happens when an object is created in java?**

* Memory is allocated from heap to hold all instance variables and implementation –specific data of object and its super class.
* The instance variable of the class is initialized to default value.
* The constructor of the most derived class is invoked.
* The first thing constructor does it, is called the constructor of its super class, the process continue till the constructor of very base class Object is invoked.
* Before the body of the constructor is executed, all instance variable initializers and initialization block is executed. Then body of constructor is executed. Thus constructor of the very base class executes first and constructor of the most derived class executes last.

**Q5: can I import same package twice, will JVM load same package twice?**

Yes, same package can be imported many times, no compiler nor JVM will complain error or exception, but package will be loaded once.

**Q6: Different types of memory used by JVM ?**

Sol: class , Heap, stack, Register, Native Method stack?

Q7: **what is class File Format? How can you check it**.

Javap -verbose <classname>

**Q8: can we overwrite finalize method? Should we overwrite it?**

Yes, It should not be done as we should leave the garbage collection for java itself. Finalize method is used in garbage collection.

**Q9: what king of memory is used for storing object member variable and function local variable ?**

Sol: local variables are stored in stack and object member variable is saved in heap.

**Q10: why do local variables don’t have default value and member variables do have default value?**

Member variables are loaded in heap , sop they are initialized with default value when an instance of class is created and constructor is invoked. Ans in case of local variables they are stored in stack until they are used.

**Q11: do java use pointers? Yes/no ? why ?**

Pointers are vulnerable and slight carelessness in their use may result in memory problems and hence essentially manage their use. As java want to be robust language. And because of pointers any problems can occur.

**Q12: different types of loaders used by java ?**

**Bootstrap Loader**: is responsible to load java internal classes java.\* packages.

**Extensions Loader:** loads jar files from JDK extensions directory – usually lib directory of the JRE.

**System Loader:** loads clases from system class path.

Q13: what is static and dynamic class loading?

**Static loading**: classes are statically loaded with java’s new operator.

**Dynamic loading**: dynamic loading is a technique for programmatically invoking the functions of class loader at runtime.

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