1.) what is garbage collector and how it works?

All objects are allocated on the heap area managed by the JVM. ... As long as an object is being referenced, the JVM considers it alive. Once an object is no longer referenced and therefore is not reachable by the application code, the garbage collector **removes it and reclaims the unused memory**.

1. ) what is heap space?

Heap space is **used for the dynamic memory allocation of Java objects and JRE classes at runtime**. New objects are always created in heap space, and the references to these objects are stored in stack memory. These objects have global access and we can access them from anywhere in the application.

1. )

Metaspace is **a new memory space** – starting from the Java 8 version; it has replaced the older PermGen memory space. The most significant difference is how it handles memory allocation. Specifically, this native memory region grows automatically by default.

1. ) what is java memory model?

Java memory model is divided between Thread Stacks **(One for each thread) and a heap area**. Thread Stack: It is a thread specific memory area and contains local variables, methods call information etc. JVM stacks could be of fixed size or variable size.

5.) what is young and old generations?

The young generation is **the place where all the new objects are created**. When the young generation is filled, garbage collection is performed. This garbage collection is called Minor GC. Young Generation is divided into three parts – Eden Memory and two Survivor Memory spaces.

The Old Generation is **used to store long surviving objects**. Typically, a threshold is set for young generation object and when that age is met, the object gets moved to the old generation. Eventually the old generation needs to be collected. This event is called a major garbage collection.

6.) what is eden and survivor space?

Eden Space: The pool from which memory is initially allocated for most objects. Survivor Space: **The pool containing objects that have survived the garbage collection of the** Eden space. Tenured Generation or Old Gen: The pool containing objects that have existed for some time in the survivor space.