Memory Allocation :-

It is a process by which Computer programs & services are Assigned with physical or virtual Memory space.

There are two types of Memory Management in java.

1) Heap Memory
2) Stack Memory.

1) Heap Memory :-

* All objects are Created in heap Memory
* objects are stored in eden.
* When these objects are not in use they are shifted to survival memory S_1 & S_2.

* When the unused objects are present Minor gc removes these objects from memory & free space is allocated to other objects

There are two generations in heap memory

1) Young generation → eden, survival memory S_1, survival memory S_2
2) old Generation

1) Young Generation :-

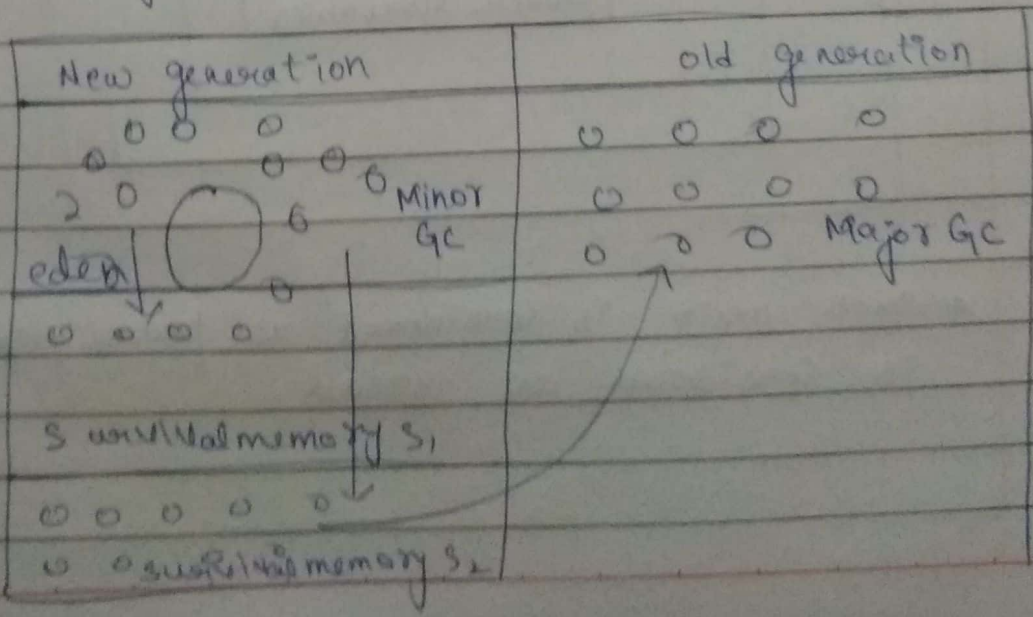
* All the objects are created in young generation
* It is present in eden
* If there are unused objects it is moved to survival memory S_1 & survival memory S_2
* If objects are not in use JVM will call Minor GC to clear the garbage.
* Non premitive data types are stored in heap.

2) Old generation :-

* When the objects present in survival memory S_2 are survived for a longer time after performing the Minor GC the objects are shifted to the old generation.

* When old generation memory is full Garbage Collection called major gc is performed

* Major gc take longer time to clear the objects



2) Stack Memory :-

* Stack always stored blocks in LIFO order

* Methods are stored in Stack Memory

* When the method is called a new block on to top of stack is created which contains specific to that methods

* When the method finishes the execution the frame is flushed and the space is empty for the next method

* Access to this memory is fast when compared to heap memory