**Sakuna**

1. **What is a Garbage Collector?**

It is the automated process of deallocating memory that is no longer in use, reducing the risk of memory leaks and simplifies the developer’s job. The operating system provides some particular memory called heap memory for a program. That memory is managed by the JVM (Java Virtual Machine). So, if a programmer doesn’t manage the memory then after sometime a program have to encounter memory issues like stack overflow and in-sufficient memory which is not good for execution. It’s really a hard task to keep track of all the allocated memory; sometime programmers can forget to free allocated memory. So, to address such kind of issues, Java introduced automatic memory management program which we called it as “Garbage Collector”

**How does the Garbage collector work in java?**

It simply works with mark and sweep algorithm, a fundamental technique to identify and reclaim memory that is no longer in use by the program.

* + 1. Marking is a first step of garbage collector in which it identifies pieces of memory that are not in use or unreachable objects.
    2. Once the marking step is completed, it will delete all the unreferenced objects that are stored in marked memory.
    3. The third step is optional and is known as compact. In this phase, garbage collector not only deletes the marked memory but also rearrange the memory to consolidate the free space reducing fragmentation. This process may of course take little more time than the normal deletion; however, it helps to manage more free memory space effectively.

1. **How can we call a garbage collector yourself?**
   1. Although JVM is responsible for calling garbage collector automatically, in Java, a programmer can also call it manually by calling System class method gc() and Runtime class method gc().

System.gc();

Runtime.getTruntime().gc();