**Garbage Collection**

When JVM starts up, it creates a heep area which is known as runtime data. This is where all the objects are stored.

Since this area is limited. it is required to manage this area effectively by removing the objects that are no longer in use.

The process of removing unused objects from heep memory is known as Garbage Collection and it is process of memory management in Java.

**Garbage Collection is automatic.**

When the object is no longer reachable.

example

ClassName obj= new ClassName();

obj = null;

here the reference obj was point to the object of a class but we assigned it as a null value. this is no longer pointing to that object. which makes object unreachable and thus unusable, such objects are automatically available for garbage collection.

similarly,

char[] arr = {'a','b','c'}

String str=new String(arr);

str=null;

here str is not reachable and unusable.

Garbage collection process **doesn't happen instantly** which means once the objects are ready for garbage collection

They must to have to wait for JVM to run the memory clean up program that performs garbage collection.

However **we can request to JVM** for garbage collection by calling **System.gc** method.