

Course Name: A Level (2nd Sem)

Subject: JAVA

Topic : Garbage Collection in Java:

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Single task by multiple threads:

If we need to perform a single task using multiple threads then we need to use only one/single run() method.

```
class M1 extends Thread {
    public void run()
    {
        System.out.println("task one started");
    }
    public static void main(String args[]) {
        M1 t1 = new M1();
        M1 t2 = new M1();
        M1 t3 = new M1();
        t1.start();
        t2.start();
        t3.start();
    } }
```

Performing multiple tasks:

To perform multiple tasks by multiple threads, we need to use multiple run() methods.

```
class M1 extends Thread {
    public void run()
    {
        System.out.println("First task started");
    } }
class M2 extends Thread {
    public void run()
    {
        System.out.println("Second task started");
    } }
class Main {
    public static void main(String args[]) {
        M1 t1 = new M1();
        M2 t2 = new M2();
        t1.start();
        t2.start();
    } }
```

Garbage Collection in Java:

The process of removing unused objects from heap memory is known as **Garbage collection** and this is a part of memory management in Java. It is done automatically in java. **Garbage collection** is applied When the object is no longer reachable or When one reference is copied to another reference.

```
public class Garbage{
    public static void main(String args[]){
        Garbage obj=new Garbage();
            obj=null;
        Garbage a = new Garbage();
        Garbage b = new Garbage();
        b = a;
        System.gc();
    }
    protected void finalize() throws Throwable
    {
        System.out.println("Garbage collection is performed by JVM");
    }
}
```

reference is made null,so is eligible for garbage collection

Now "a" is eligible for garbage collection

Note:

The finalize() method is invoked each time before the object is garbage collected. This method can be used to perform cleanup processing.

The gc() method is used to invoke the garbage collector to perform cleanup processing. The gc() is found in System and Runtime classes.

Exercise:

1. Explain multitasking using multiple threads.
2. What is garbage collection and when it is applied,explain.