Job No: 04

Job Name: Write a program using Garbage Collection in Java.

Objectives: Acquire the skills to understand garbage collection in java.

Required Equipment:

1. Laptop/Desktop.
2. Java IDE (Eclipse/NetBeans/IntelliJ IDEA Community Edition)

Working Procedure:

Program:

© Garbage.java ×

```java
import java.util.Scanner;
4 usages
class Employee {
    3 usages
    private static int nextId = 1;
    2 usages
    private int ID;
    2 usages
    private String name;
    2 usages
    private int age;
    2 usages
    public Employee(String name, int age) {
        this.name = name;
        this.age = age;
        this.ID = nextId++;
    }
    2 usages
    public void show() {
        System.out.println("Id=" + ID + "\nName=" + name + "\nAge=" + age);
    }
    2 usages
    public void showNextId() {
        System.out.println("Next employee id will be=" + nextId);
    }
    protected void finalize() {
        nextId--;
    }
}

public class Garbage {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the first number: ");
        int num1 = scanner.nextInt();
        System.out.print("Enter the second number: ");
        int num2 = scanner.nextInt();
        int sum = num1 + num2;
        System.out.println("The sum of " + num1 + " and " + num2 + " is: " + sum);
        {
            Employee X = new Employee( name: "Intern1",  age: 23);
            Employee Y = new Employee( name: "Intern2",  age: 21);
            X.show();
            Y.show();
            X.showNextId();
            Y.showNextId();
            X = Y = null;
            System.gc();
            System.runFinalization();
        }
        scanner.close();
    }
}
```

Output:

```
Run    Garbage  ×

"C:\Program Files\Java\jdk-21\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition
Enter the first number: 5
Enter the second number: 2
The sum of 5 and 2 is: 7
Id=1
Name=Intern1
Age=23
Id=2
Name=Intern2
Age=21
Next employee id will be=3
Next employee id will be=3

Process finished with exit code 0
```

Caution:

1. File name and class name should be same.

2. Write file name first letter would be capital letter.

Conclusion: Now I am able to explain and write java program using garbage collection.