JAVA PROGRAMMING

LAB 6

(02/06/2025 to 07/06/2025)

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9. Create an enum TrafficLight with constants: RED, YELLOW, GREEN. Each constant should have a duration (in seconds). Add a method getDuration() and display behavior based on the current light.

PROGRAM:

```
enum TrafficLight {
   RED(30) {
      @Override
      public void displayBehavior() {
         System.out.println("STOP! The light will be red for " + getDuration() + " seconds.");
      }
   },
   YELLOW(5) {
      @Override
      public void displayBehavior() {
         System.out.println("CAUTION! The light will be yellow for " + getDuration() + "
seconds.");
      }
   },
   GREEN(45) {
      @Override
      public void displayBehavior() {
```

```
            System.out.println("GO! The light will be green for " + getDuration() + " seconds.");
        }
    };
    private final int duration;
    TrafficLight(int duration) {
        this.duration = duration;
    }
    public int getDuration() {
        return duration;
    }
    public abstract void displayBehavior();
}
public class TrafficLightDemo{
    public static void main(String[] args) {

        TrafficLight red = TrafficLight.RED;
        red.displayBehavior();
        TrafficLight yellow = TrafficLight.YELLOW;
        yellow.displayBehavior();
        TrafficLight green = TrafficLight.GREEN;
        green.displayBehavior();
    }
}
```

OUTPUT:

```
D:\bmsce\2sem\Java programming\lab>java TrafficLightDemo
STOP! The light will be red for 30 seconds.
CAUTION! The light will be yellow for 5 seconds.
GO! The light will be green for 45 seconds.
```

10. Write a program to create a List<String> of names.Sort the list in: Alphabetical order, Reverse alphabetical order Use lambda expressions with Collections.sort() or List.sort().

PROGRAM:

```
import java.util.*
public class NameSorter {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      List<String> names = new ArrayList<>();
      System.out.print("How many names do you want to enter? ");
      int count = scanner.nextInt();
      scanner.nextLine();
      for (int i = 0; i < count; i++) {
         System.out.print("Enter name " + (i + 1) + ": ");
         String name = scanner.nextLine();
         names.add(name);}
      names.sort((s1, s2) -> s1.compareTo(s2));
      System.out.println("\nAlphabetical order: " + names);
      names.sort((s1, s2) -> s2.compareTo(s1));
      System.out.println("Reverse alphabetical order: " + names);

      Collections.sort(names, (s1, s2) -> s1.compareTo(s2));
      System.out.println("Alphabetical (Collections.sort): " + names);
      Collections.sort(names, (s1, s2) -> s2.compareTo(s1));
      System.out.println("Reverse (Collections.sort): " + names);
      scanner.close();
}}
```

OUTPUT:

```
D:\bmsce\2sem\Java programming\lab>java NameSorter
How many names do you want to enter? 3
Enter name 1: vijay
Enter name 2: yashas
Enter name 3: sudeep

Alphabetical order: [sudeep, vijay, yashas]
Reverse alphabetical order: [yashas, vijay, sudeep]
Alphabetical (Collections.sort): [sudeep, vijay, yashas]
Reverse (Collections.sort): [yashas, vijay, sudeep]
```