

# Rajalakshmi Engineering College

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Batch: 2028

Degree: B.E - CSE

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 10\_Q1

Attempt : 1

Total Mark : 10

Marks Obtained : 10

#### **Section 1 : COD**

##### **1. Problem Statement**

A city traffic management system needs to track vehicles entering a toll booth. Each vehicle is uniquely identified by its registration number. The system should allow adding vehicles to a record, ensuring that no duplicate registration numbers exist. The vehicles should be stored in a HashSet, which does not guarantee any specific order.

Your task is to implement a program using a HashSet that allows adding vehicle details and displaying the records.

##### ***Input Format***

The first line of input contains an integer N - the number of vehicles.

The next N lines contain details of each vehicle in the format: "RegNumber

OwnerName VehicleType"

1. RegNumber (String) - A unique registration number (Alphanumeric).
2. OwnerName (String) - The name of the vehicle owner.
3. VehicleType (String, Car, Bike, or Truck) - The type of vehicle.

If a vehicle with the same registration number is already present, ignore the duplicate entry.

### ***Output Format***

The output prints the unique vehicle records in any order (since HashSet does not maintain order).

Output format: "RegNumber OwnerName VehicleType"

Refer to the sample output for formatting specifications.

### ***Sample Test Case***

Input: 5

KA01AB1234 John Car

MH02CD5678 Alice Bike

DL03EF9012 Bob Truck

TN04GH3456 Mike Car

KA01AB1234 John Car

Output: TN04GH3456 Mike Car

KA01AB1234 John Car

MH02CD5678 Alice Bike

DL03EF9012 Bob Truck

### ***Answer***

```
import java.util.HashSet;
import java.util.Scanner;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int N = Integer.parseInt(scanner.nextLine().trim());
        HashSet<String> vehicles = new HashSet<>();
```

```
for (int i = 0; i < N; i++) {
    String record = scanner.nextLine().trim();
    String regNumber = record.split("\\s+")[0];
    if (!containsRegNumber(vehicles, regNumber)) {
        vehicles.add(record);
    }
}

for (String vehicle : vehicles) {
    System.out.println(vehicle);
}

scanner.close();
}

private static boolean containsRegNumber(HashSet<String> set, String
regNumber) {
    for (String record : set) {
        if (record.startsWith(regNumber + " ")) {
            return true;
        }
    }
    return false;
}
```

**Status : Correct**

**Marks : 10/10**