

# Rajalakshmi Engineering College

Name: Kiran Ajay S.N

Email: 241801126@rajalakshmi.edu.in

Roll no:

Phone: null

Branch: REC

Department: AI & DS - Section 1

Batch: 2028

Degree: B.E - AI & DS

Scan to verify results



## 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.*;  
class Vehicle {  
    String regNumber;  
    String ownerName;  
    String vehicleType;  
    public Vehicle(String regNumber, String ownerName, String vehicleType) {  
        this.regNumber = regNumber;  
        this.ownerName = ownerName;  
        this.vehicleType = vehicleType;
```

```

}

@Override
public boolean equals(Object obj) {
if (this == obj) return true;
if (obj == null || getClass() != obj.getClass()) return false;
Vehicle vehicle = (Vehicle) obj;
return regNumber.equals(vehicle.regNumber);
}
@Override
public int hashCode() {
return regNumber.hashCode();
}
@Override
public String toString() {
return regNumber + " " + ownerName + " " + vehicleType;
}
}

public class Main {
public static void main(String[] args) {
Scanner sc = new Scanner(System.in);
int n = sc.nextInt();
Set<Vehicle> vehicles = new HashSet<>();
for (int i = 0; i < n; i++) {
String regNumber = sc.next();
String ownerName = sc.next();
String vehicleType = sc.next();
vehicles.add(new Vehicle(regNumber, ownerName, vehicleType));
}
for (Vehicle v : vehicles) {
System.out.println(v);
}
}
}

```

**Status :** Correct

**Marks :** 10/10