1. Any hospital basically provides two facilities for its patients viz., inPatientTreatment and outPatientTreatment. The patients who are treated without hospitalisation are considered out-patients. The patients who need to be hospitalised at-least for one-night are called in-patients. Design an interface and demonstrate usage of adapter class for the given scenario. Assume the required data. Draw the class diagram for the same
2. Write a program to demonstrate 'Car Race', where each car is a thread. Each car has to complete 5 laps and every car has the same amount of delay after completion of each lap. Display the status of each car after every lap.

Challenge Program:

1. **Demonstrate the usage of multi-threading for the Elevator problem. Simulate the problem based on the user's choice of direction and proximity of the elevator. Make necessary assumption.**

**Some tokens as tips :**

// curr = current floor

// dir = direction of the user or elevator

// Elevator direction : same floor = 0 ; going up=1 ; going down=2;