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Parking Simulation

Main.java

```
import java.util.Scanner;

public class Main {
  public static void main (String[] args) {
    ParkingPool pool = new ParkingPool ();

  new ParkingAgent ("ParkingAgent-1", pool).start();
  new ParkingAgent ("ParkingAgent-2", pool).start();
  new ParkingAgent ("ParkingAgent-3", pool).start();

   Scanner scanner = new Scanner (system.in);
    int carCount = 0;
   While (carCount < 10) {
   System.out.println (" Press Enter to register a car
                        for parking (or -1 to exit): ");
    String input = scanner.nextLine();
     if (input.equals ("-1")) break;
    RegisterParking car = new RegisterParking();
      pool.addCar (car);
      carCount++;
    }
    Scanner.close();
  }
}
```

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ParkingAgent.java

```
Public class ParkingAgent extends Thread {
    Private final ParkingPool parkingPool;
    private final String agentName;
Public ParkingAgent (String name, ParkingPool pool){
    this.agentName = name;
    this.parkingPool = pool;
}
public void run() {
    while (true) {
    try {
    RegistrarParking car = parkingPool.getCar();
    System.out.println (agentName + "is parking Car"
                        + car.getCarID());
    Thread.sleep (millis: 2000);
    System.out.println (agentName + " has parked Car"
                        + car.getCarID());
} catch (InterruptedException e) {
    e.printStackTrace();
}
}
}
}
```

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ParkingPool.java

```
import java.util.LinkedList;
import java.util.Queue;
public class ParkingPool {
    private final Queue<RegistrarParking>
                    parkingQueu = new LinkedList<>();
public synchronized void addCar (RegistrarParking car){
    parkingQueue :add (car);
System.out.println ("Car " + car.getCarId() +
                    " arrived and waiting for parking.");
    notify();
}

public synchronized RegistrarParking getCar() throws
                    InterruptedException{
    While (ParkingQueu.isEmpty()){
    wait();
    }
    return parkingQueue.poll();
}
}
```

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RegistrarParking.java

```
Public class RegistrarParking {
  Private static int count = 0;
  Private final int carId;
  Public RegistrarParking () {
    this.carId = ++count;
  }
  Public int getCarId () {
    return carId;
  }
}
```