

TOPIC NAME: Practicing Multithreading

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RegistrarParking.java

ABU SAYEM

IT-22008

```
public class RegistrarParking {  
    private static int count = 0;  
    private final int carId;  
    public RegistrarParking() {  
        carId = ++count;  
    }  
    public int getCarId() {  
        return carId;  
    }  
}
```

ParkingAgent.java

```
public class ParkingAgent extends Thread {  
    private final String agentName;  
    private final ParkingPool pool;  
    private final int agentId;  
    public static int MaximumCars;  
    private static int processedCars = 0;  
    public ParkingAgent(String agentName,  
        ParkingPool pool, int agentId) {  
        this.agentName = agentName;  
        this.pool = pool;  
        this.agentId = agentId;  
    }  
}
```

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@Override

```
public void run() {
```

```
    while (true) {
```

```
        synchronized (ParkingAgent.class)
```

```
        { if (processedCars >= MaximumCars) break;
```

```
          processedCars++;
```

```
        }
```

```
        RegisterParking car = pool.getCarForAgent(agentId);
```

```
        System.out.println(agentName + " processed car" +  
            + car.getCarId());
```

```
        System.out.println("Car" + car.getCarId() + "  
        exited the parking.");
```

```
    }
```

```
}
```

```
}
```

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}
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}
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}
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}
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```
}
```

MainClass.java

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

```
public class MainClass {
```

```
    public static void main (String[] args) {
```

```
        parkingPool pool = new parkingPool();
```

```
        Scanner scanner = new Scanner(System.in);
```


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```
System.out.println("Enter the number of cars to  
park:");
```

```
int N = scanner.nextInt();
```

```
scanner.nextLine();
```

```
parkingAgent.Maximum_cars = N;
```

```
parkingAgent agent1 = new ParkingAgent(  
"Agent-1", pool, 1);
```

```
parkingAgent agent2 = new ParkingAgent(  
"Agent-2", pool, 2);
```

```
parkingAgent agent3 = new ParkingAgent("Agent-3",  
pool, 3);
```

```
agent1.start();
```

```
agent2.start();
```

```
agent3.start();
```

```
System.out.println("Press Enter to park a  
car:");
```

```
for (int i = 0; i < N; i++) {
```

```
scanner.nextLine();
```

```
Registration car = new Registration  
();
```

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```
pool.addCan(can);  
}  
scanner.close();  
}  
}
```