Zadatak vam je kreirati sustav za upravljanje vozilima u floti. Sustav bi trebao omogućiti korisnicima dodavanje, pretraživanje, ispisivanje i brisanje vozila iz flote.

Sustav bi trebao podržavati dva tipa vozila: automobili i kamioni. Automobili bi trebali imati sljedeća svojstva:

- Proizvođač, model, godina proizvodnje,, boja ,VIN (Vehicle Identification Number) oznaka ,tip goriva, broj vrata, karoserija

Kamioni bi trebali imati sljedeća svojstva:

- Proizvođač, model, godina proizvodnje, boja, VIN oznaka, tip goriva, kapacitet tereta

Sustav bi trebao podržavati sljedeće funkcionalnosti:

- Dodavanje vozila u flotu: korisnik bi trebao moći unijeti podatke o vozilu (proizvođač, model, godina proizvodnje, boja, VIN oznaka, tip goriva, i odgovarajuće dodatne atribute za automobile i kamione), te dodati vozilo u flotu. Sustav bi trebao provjeriti postoji li već vozilo s istom VIN oznakom u floti, te u slučaju da postoji, baciti iznimku DuplicateVehicleException.
- Pretraživanje vozila u floti: korisnik bi trebao moći pretražiti vozila u floti po proizvođaču, modelu ili VIN oznaci te dobiti popis vozila koji zadovoljavaju kriterije pretrage.
- Ispisivanje vozila u floti: korisnik bi trebao moći dobiti popis svih vozila u floti.
- Brisanje vozila iz flote: korisnik bi trebao moći unijeti VIN oznaku vozila koje želi izbrisati iz flote. Sustav bi trebao provjeriti postoji li vozilo s tom VIN oznakom u floti, te u slučaju da ne postoji, baciti iznimku NoSuchVehicleException.

Sustav bi trebao biti implementiran korištenjem objektno-orijentirane paradigme, te bi trebao koristiti sljedeće koncepte:
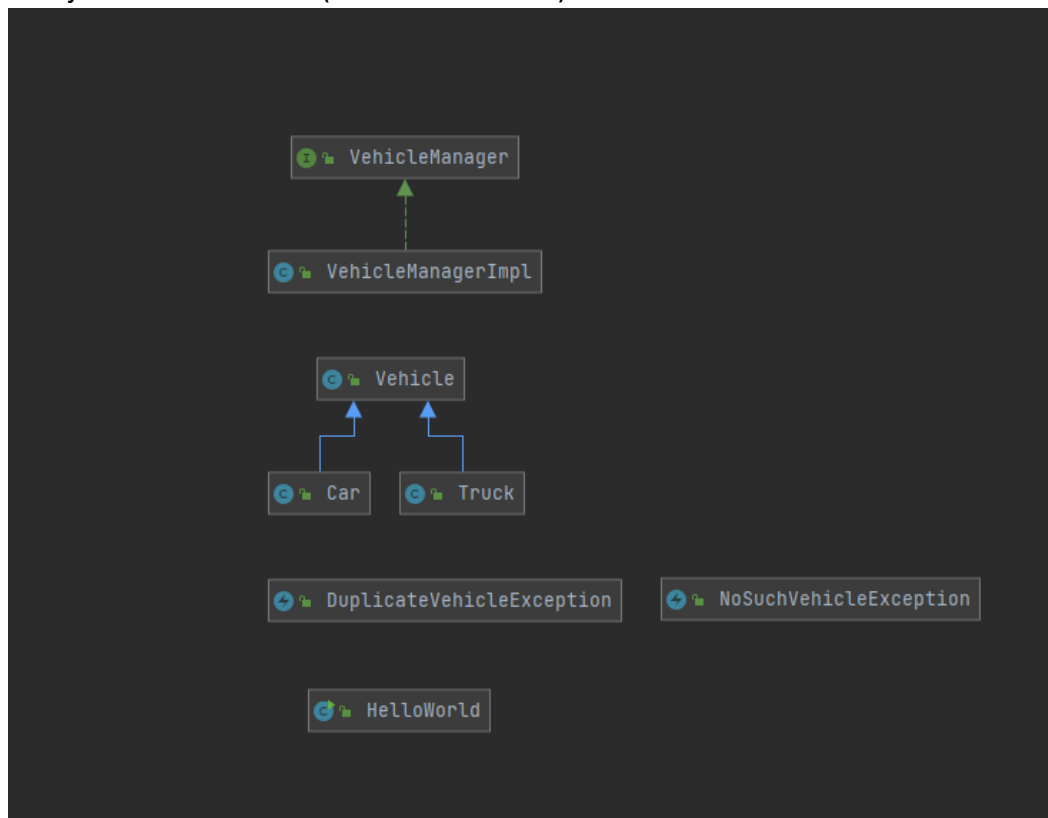
- Klase i objekti
- Nasljeđivanje
- Polimorfizam
- Sučelja
- Iznimke
- Kolekcije

Napišite implementaciju klase VehicleManagerImpl koja implementira sučelje VehicleManager.

Osigurajte da se aplikacija ne sruši neovino o unosu korisnika. Osigurajte pravilno logiranje događaja. Ne zaboravite na dokumentaciju!

Sretno!

Primjer korištenih klasa (not set in stone!):

```
Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 1

What type of vehicle would you like to add?
Enter 'car' or 'truck': car
Enter make: Audi
Enter model: a3
Enter year: 2015
Enter color: black
Enter VIN: 1234
Enter fuel type: diesel
Enter number of doors: 4
Enter body style: s-line
Vehicle added successfully.

Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 1

What type of vehicle would you like to add?
Enter 'car' or 'truck': truck
Enter make: ford
Enter model: f-150
Enter year: 2016
Enter color: red
Enter VIN: 4321
Enter fuel type: diesel
Enter towing capacity: 150
Vehicle added successfully.
```

```
Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 3

All vehicles in the fleet:
Car{make='Audi', model='a3', year=2015, color='black', vin='1234', fuelType='diesel', numDoors=4, bodyStyle='s-line'}
Truck{make='ford', model='f-150', year=2016, color='red', vin='4321', fuelType='diesel', maxPayload=150.0}

Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 2

How would you like to search for vehicles?
1. Search by make
2. Search by model
Enter command: make
Invalid command. Please enter a number between 1 and 2.
Enter command: 1
Enter make: audi
Search results:
Car{make='Audi', model='a3', year=2015, color='black', vin='1234', fuelType='diesel', numDoors=4, bodyStyle='s-line'}

Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 4
```

```
Enter VIN of vehicle to delete: 4321
Vehicle with VIN 4321 deleted successfully.

Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 3

All vehicles in the fleet:
Car{make='Audi', model='a3', year=2015, color='black', vin='1234', fuelType='diesel', numDoors=4, bodyStyle='s-line'}

Vehicle Fleet Management System
-------------------------------
1. Add a vehicle to the fleet
2. Search for vehicles by make or model
3. Print all vehicles in the fleet
4. Delete a vehicle from the fleet
5. Quit
Enter command: 5
```