

# Java Inheritance Exercises - Beginner Level

## 1. Understanding Classes and Objects

Exercise 1:

Create a Vehicle object with the brand "Honda" and year 2021. Call the start() and stop() methods.

```
// Your code here
```

## 2. Subclass Creation

Exercise 2:

Create a subclass Car of Vehicle with an additional property doors. Create a Car object with:

- Brand: "Toyota"
- Year: 2022
- Doors: 4

Call the methods start(), honk(), and stop().

```
// Your code here
```

Exercise 3:

Create a subclass Truck of Vehicle with an additional property loadCapacity (double). Create a Truck object:

- Brand: "Ford"
- Year: 2020
- Load Capacity: 10 tons

Call the methods start(), dumpLoad(), and stop().

```
// Your code here
```

## 3. Another Subclass

Exercise 4:

Create a subclass Boat of Vehicle with an additional property isMotorized (boolean). Create a Boat object:

- Brand: "Bayliner"
- Year: 2018
- Motorized: true

Call the methods start(), sail(), and stop().

// Your code here

## 4. Simple Extension

Exercise 5:

Add a new method to Car called wash(). It should print: "Toyota car is being washed."

Create a Car object and call wash() after starting the car.

// Your code here

## 5. Challenge (Optional)

Create another subclass of Vehicle called Motorcycle with a property hasSidecar (boolean).

- Create an object
- Call start() and a custom method wheelie() that prints "Motorcycle is doing a wheelie!"

// Your code here

## Hints for Students

1. Use extends keyword to create subclasses.
2. Use super() to call the parent constructor.
3. Add unique methods for each subclass to show inheritance.
4. Use System.out.println() to display output.