

# Advanced JavaScript

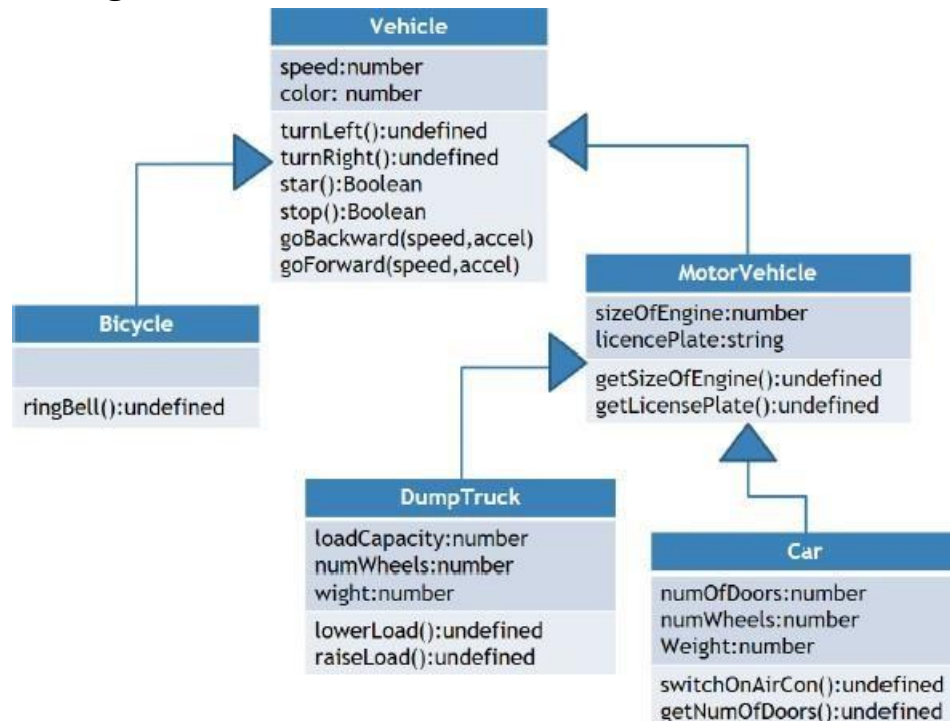
## Lab 3

**1.a. Make proper updates in previous of generating Rectangle objects,**

- Rectangle Constructor should inherit from Shape Constructor
- Create your Square constructor that inherits from Rectangle.
- Create a Class Property that counts number of generated Square objects.
- Prevent creating any object from shape, allow creation of only rectangles and square (make shape abstract class)
- All of the properties should be defined using accessor and/or data descriptor.
- Use `.toString()` to display each instance's dimensions, its area and perimeter.
- Implement `.valueOf()` so that if there is more than one rectangle object we can run arithmetic operation as follows : if we have rectangle1 of area 60m<sup>2</sup> and rectangle2 of 37m<sup>2</sup> then rectangle1 + rectangle2 should return 97 and rectangle1 - rectangle2 should return 23.
- you can add any property you need.

**1. b Bonus:** allow creation of only one square and one rectangle

## 2. Build your own custom constructors that implement the given simple class diagram



- each class should have the following
  - public and private properties and method;
  - You should ensure that properties are set with the required data type state in the above diagram otherwise throw an exception.
  - All of the properties should be defined using accessor and/or data descriptor.
  - Override both `.toString()` and `valueOf()`
  - Make sure you are implementing inheritance properly.
  - You can add any property you need.