SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107
Accredited by NAAC-UGC with 'A' Grade
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Department of Information Technology

19CS204 OBJECT ORIENTED PROGRAMMING

I YEAR /II SEMESTER

Unit 1- INTRODUCTION TO OOP

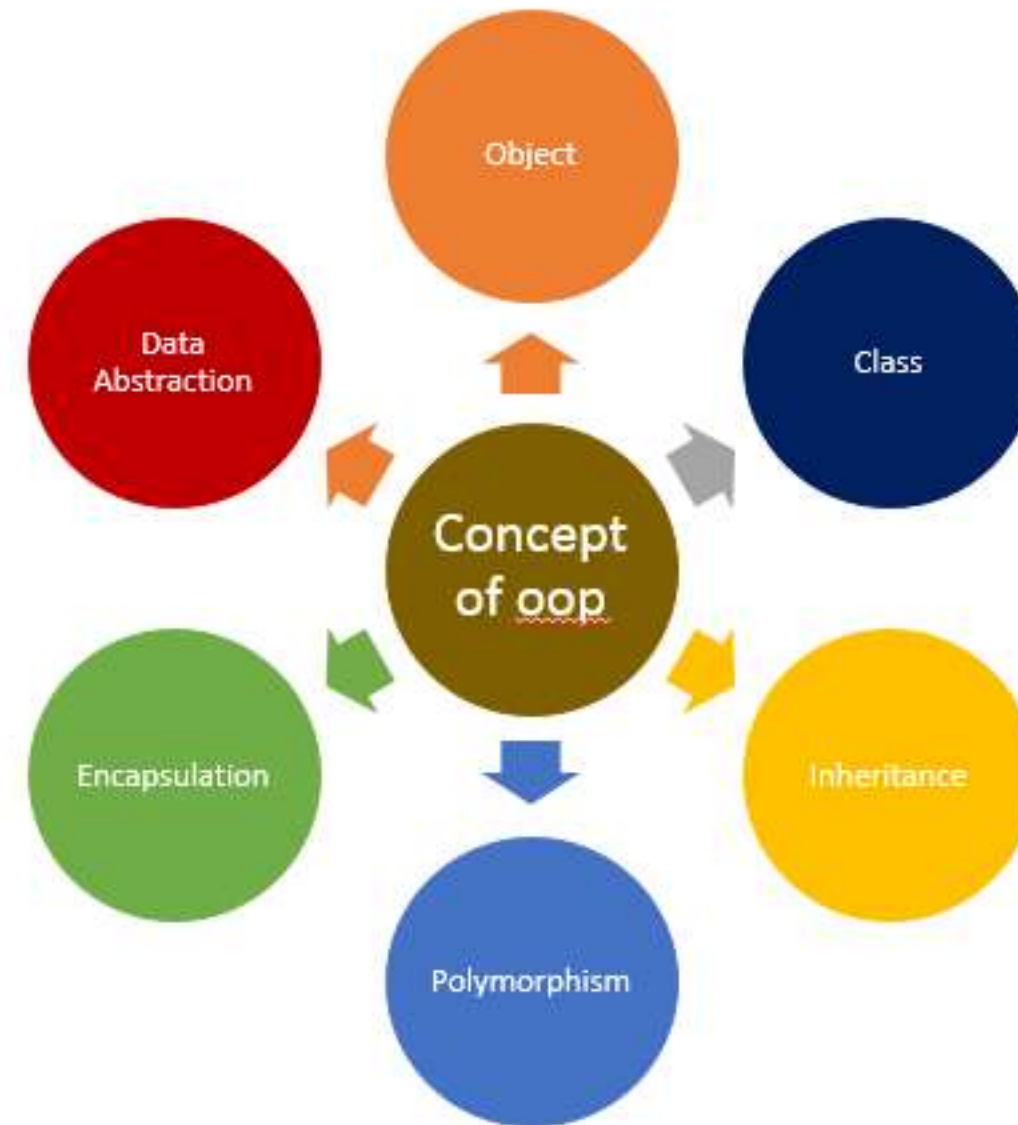Topic 1: Object Oriented Programming concepts

Object Oriented Programming Concepts

- OOPs is a programming paradigm based on the concept of "objects" that contain data and methods.

- The primary purpose of OOP is to increase the flexibility and maintainability of programs.

- This is achieved by representing real word entities in programming.

Object Oriented Programming Concepts

- Objects

- Classes

- Inheritance

- Polymorphism

- Abstraction

- Encapsulation

Object Oriented Programming Concepts

Objects

- Represents real world entities.

- Object consist of **State** and **Behavior.**

- State: Represents attributes or properties

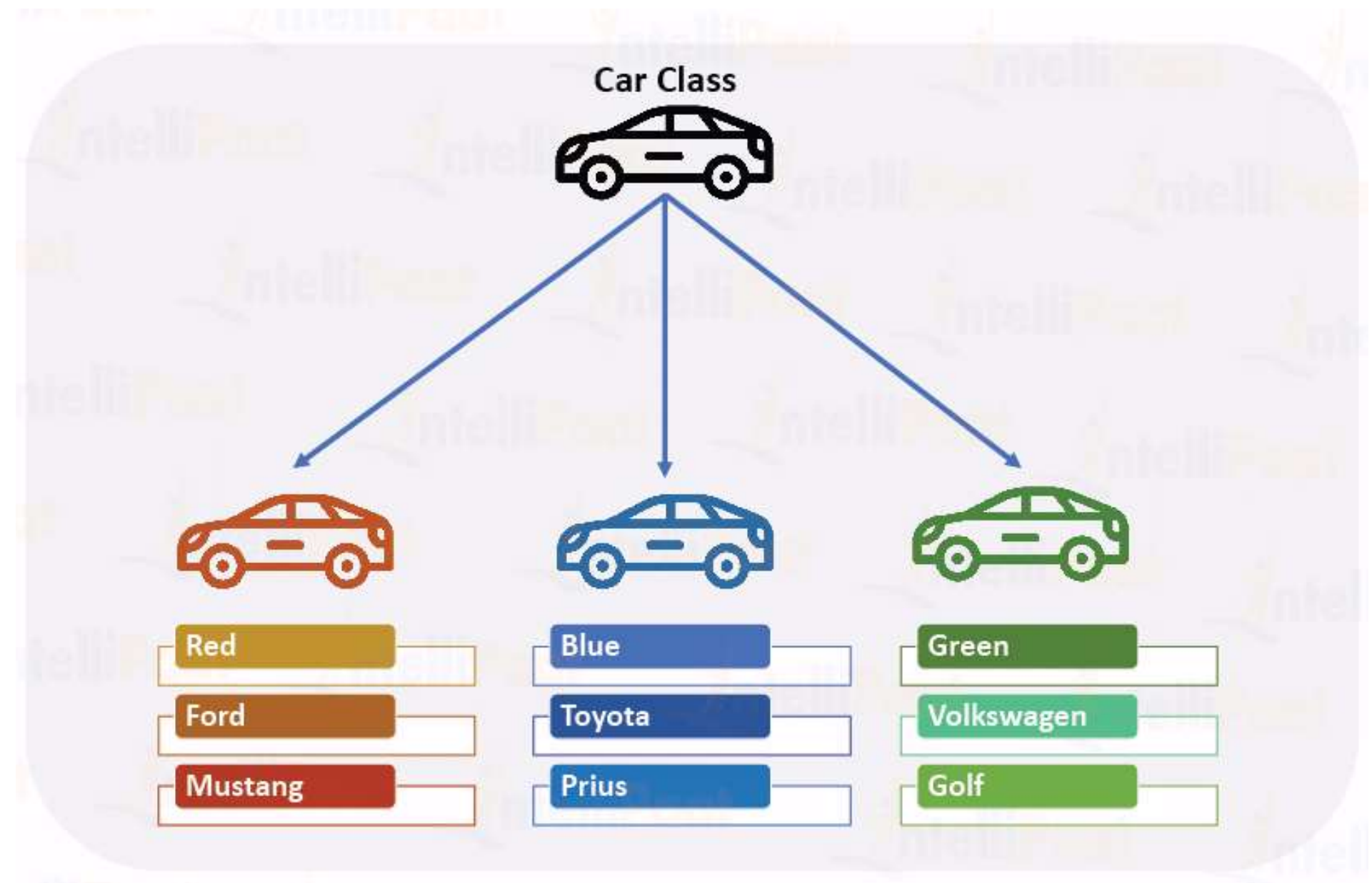- Behavior : Represents methods

Example of an Object

Properties	Methods
Colour	Start, Stop
Transmission Type	Accelerate
Max Speed	Change Transmission

Object Oriented Programming Concepts

Class

- User defined blueprint or prototype from which objects are created

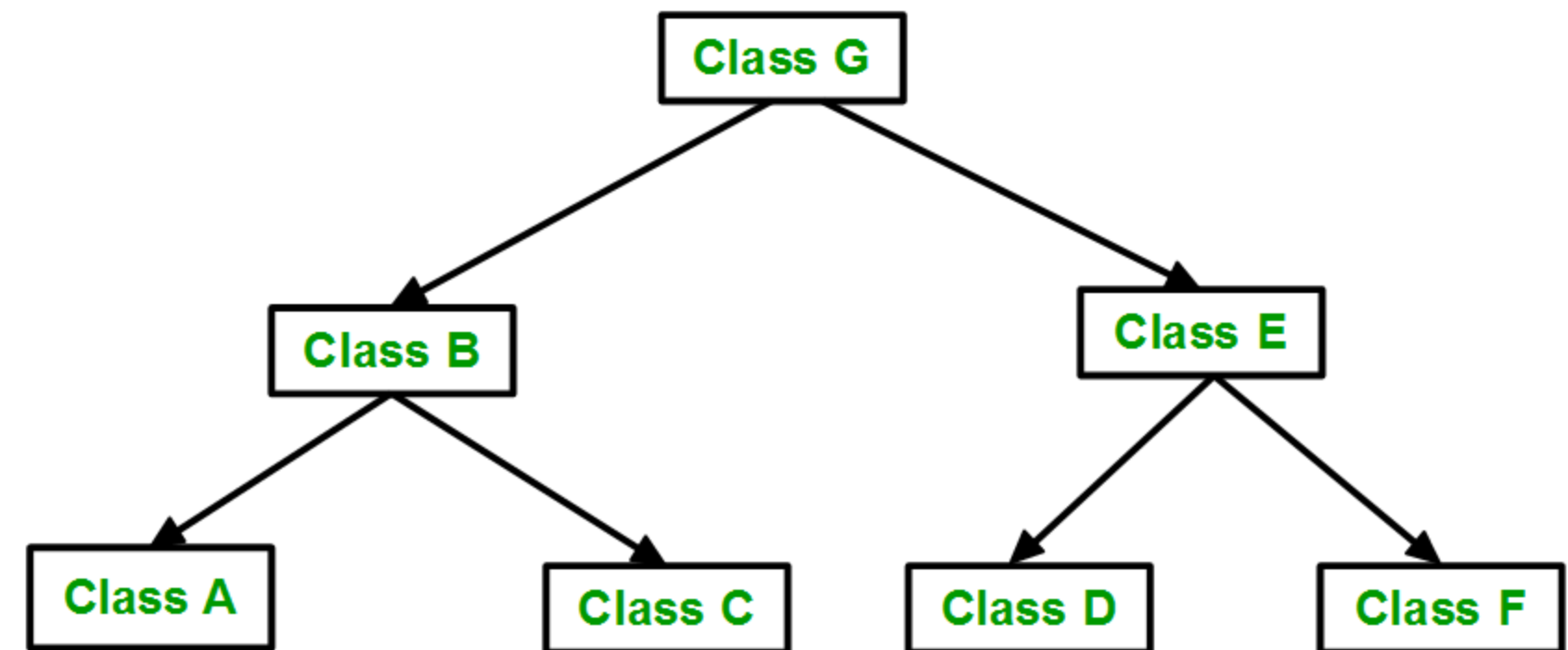- Represents the set of properties or methods that are common to all objects of one type

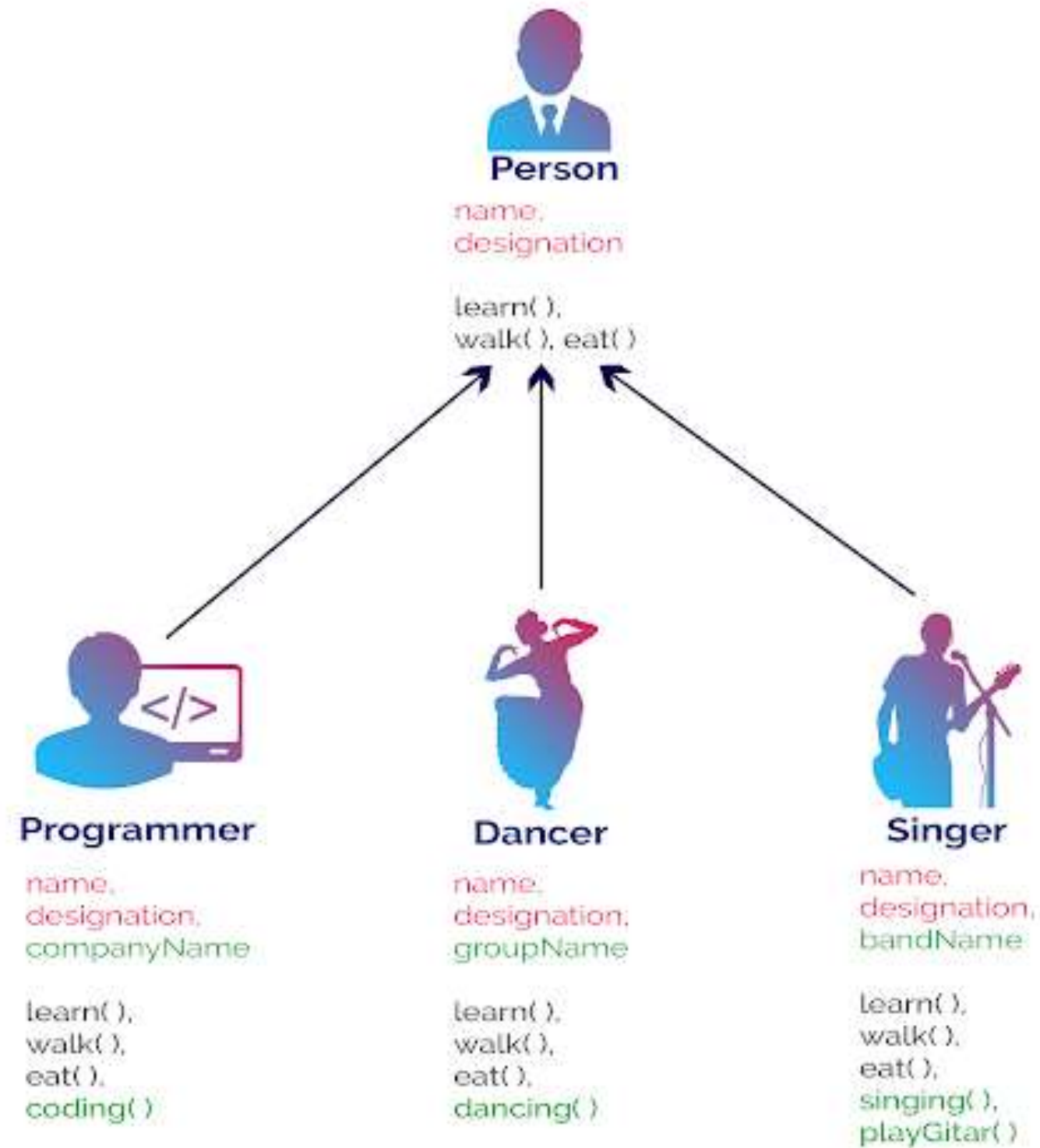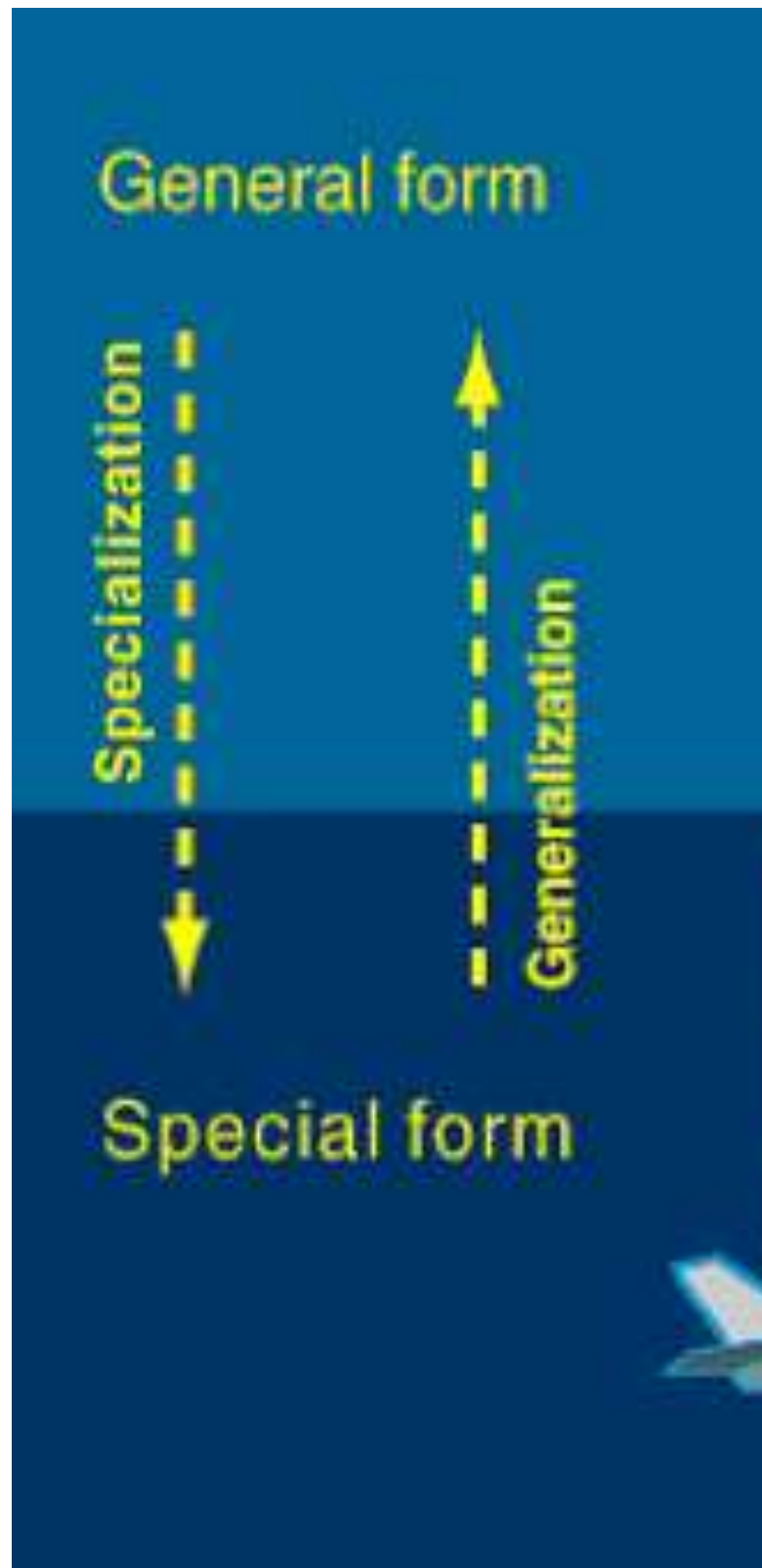# Object Oriented Programming Concepts
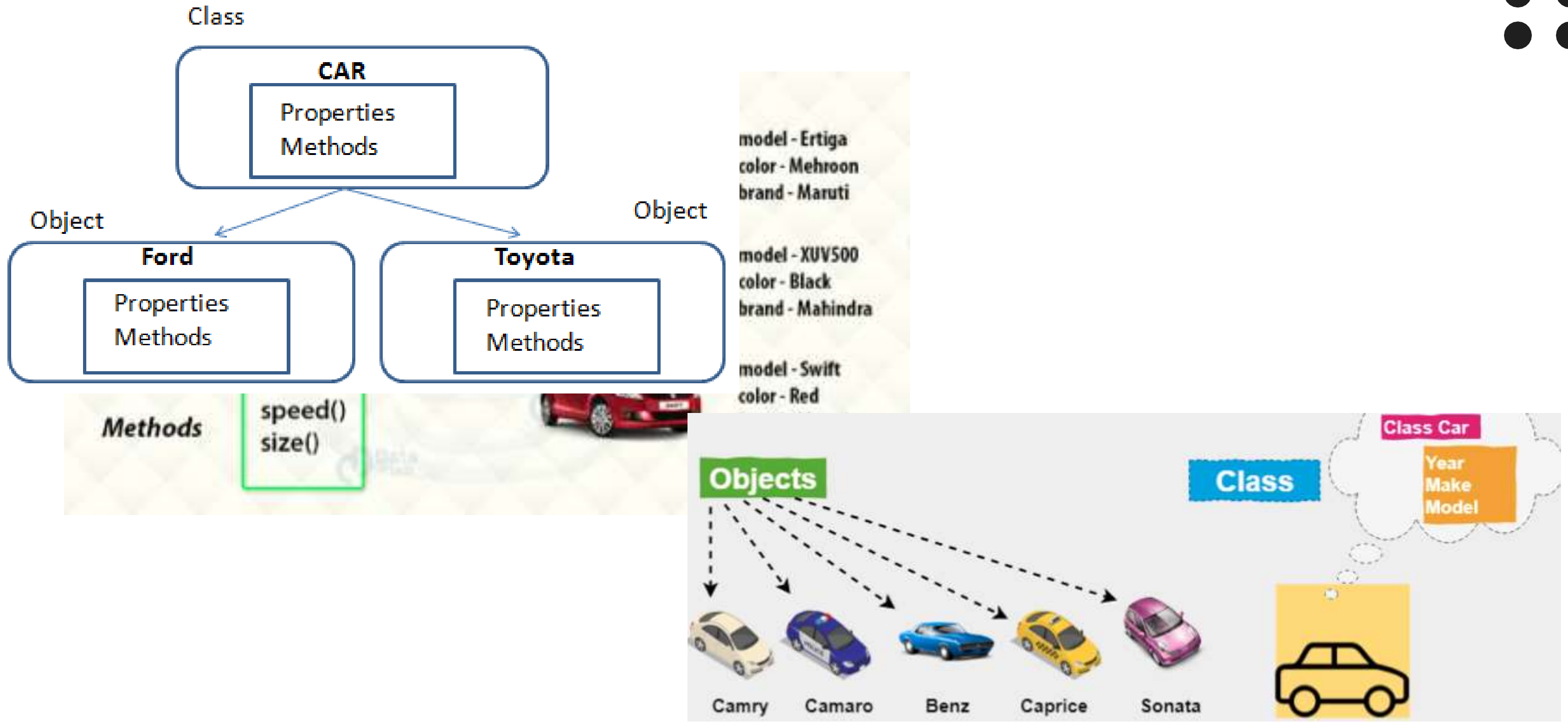
Object Oriented Programming Concepts

Inheritance

◉ One class is allow to inherit the features(fields and methods) of another class

◉ Base Class – Super Class – Parent Class

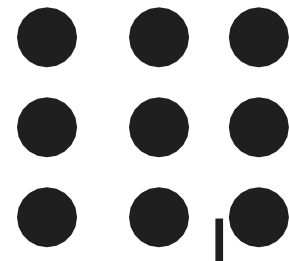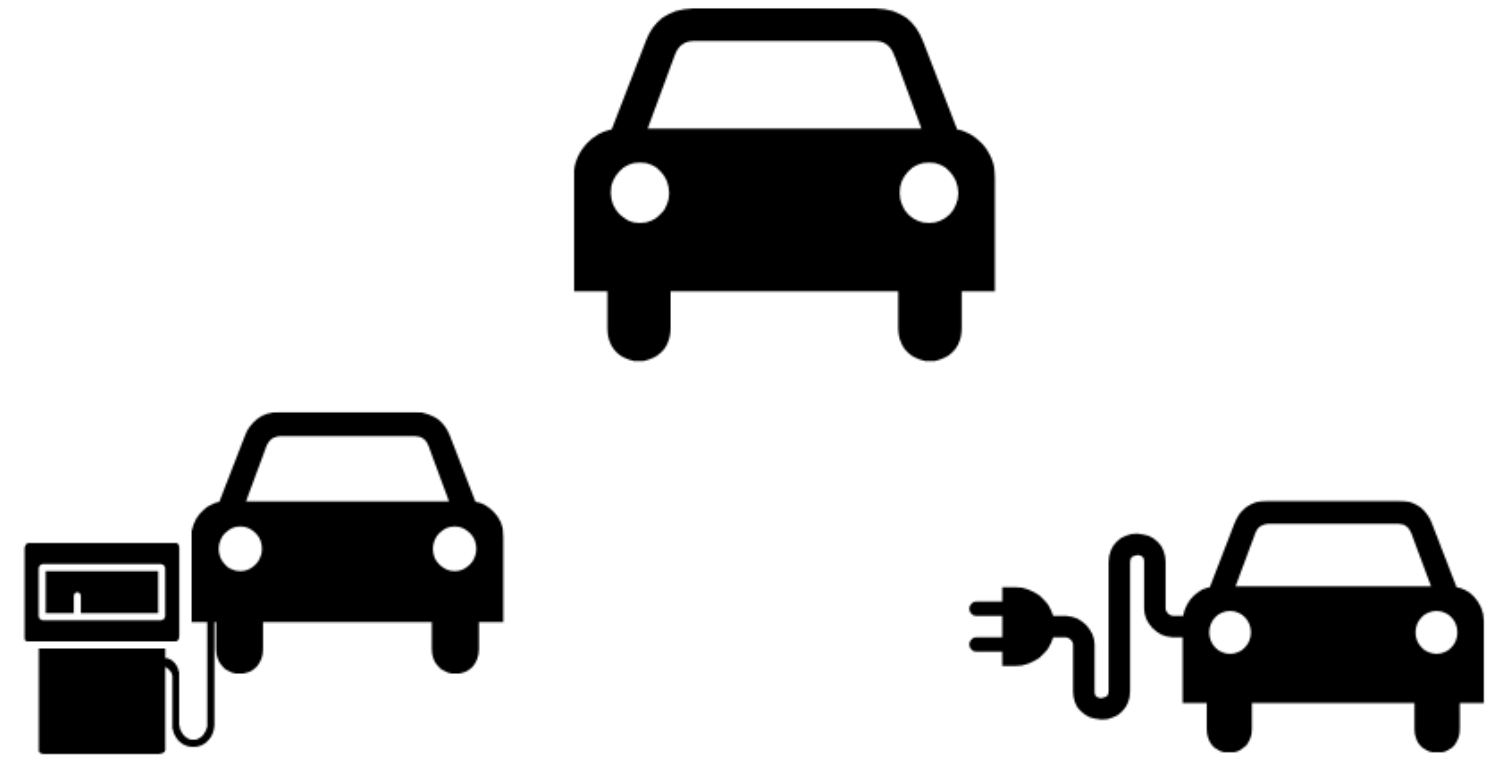◉ Derived Class - Sub Class - Child class

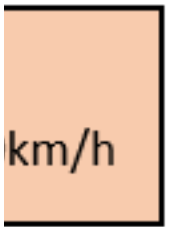# Object Oriented Programming Concepts

Polymorphism

One task performed in different ways

Many forms

ONE NAME FOR MANY FORMS
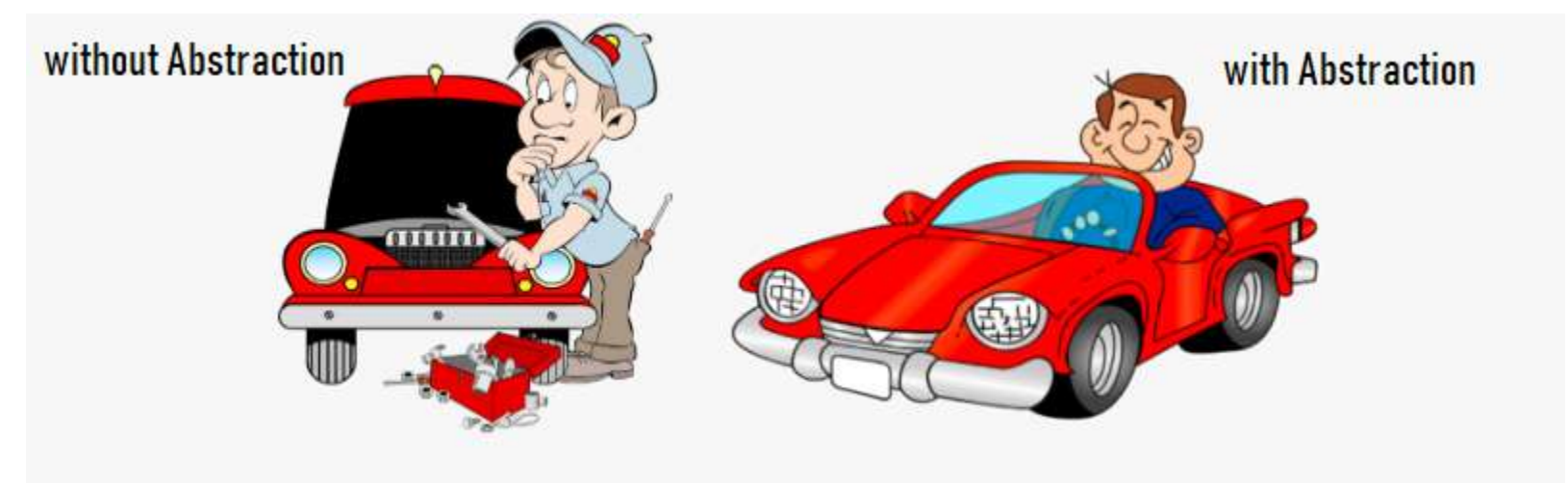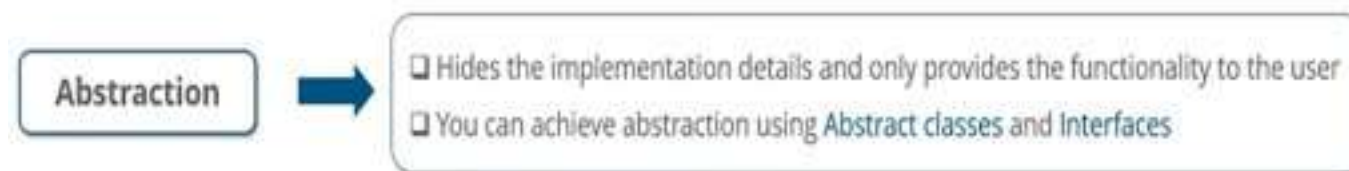
POLYMORPHISM

km/h

Object Oriented Programming Concepts

Abstraction

Essential details are displayed to the user

Show only "relevant" data and "hide" unnecessary details of an object from the user.

Encapsulation

- wrapping up of data under a single unit

- binds together code and the data it manipulates
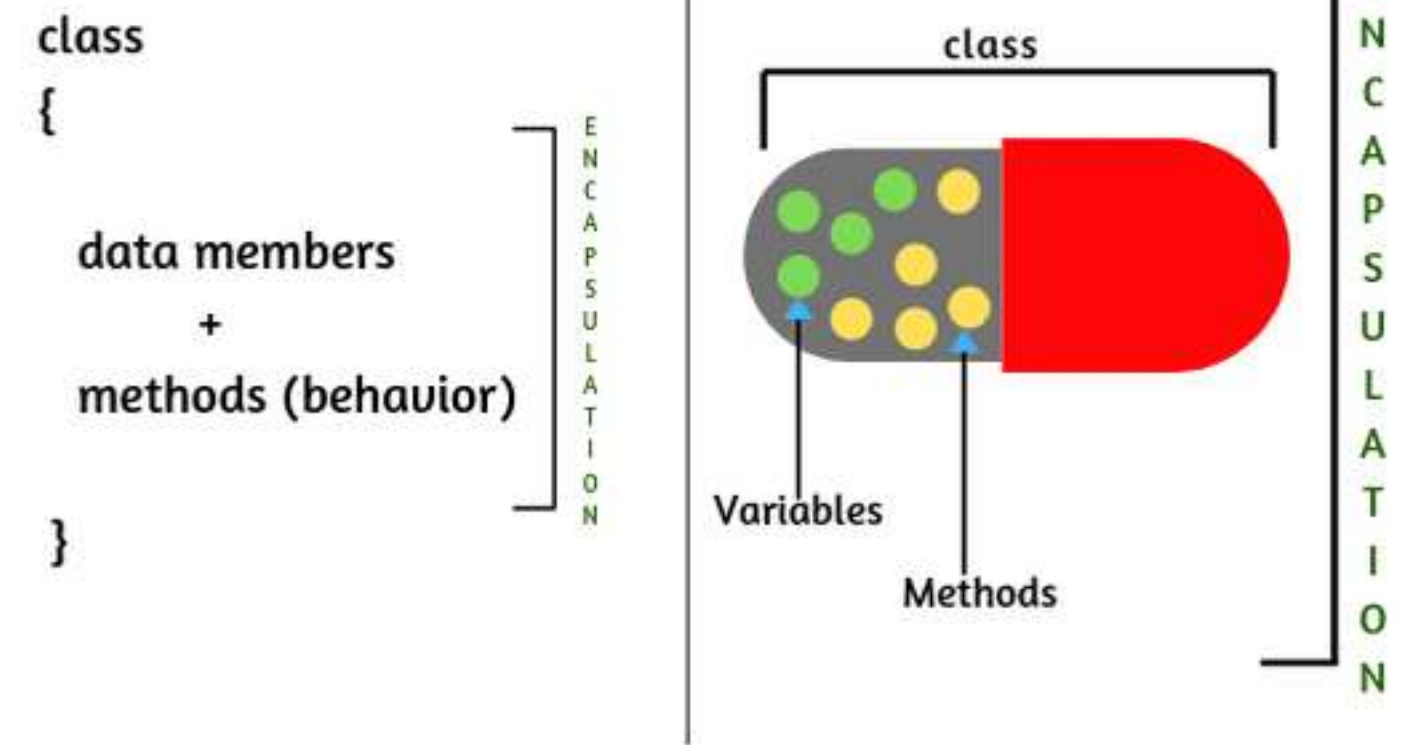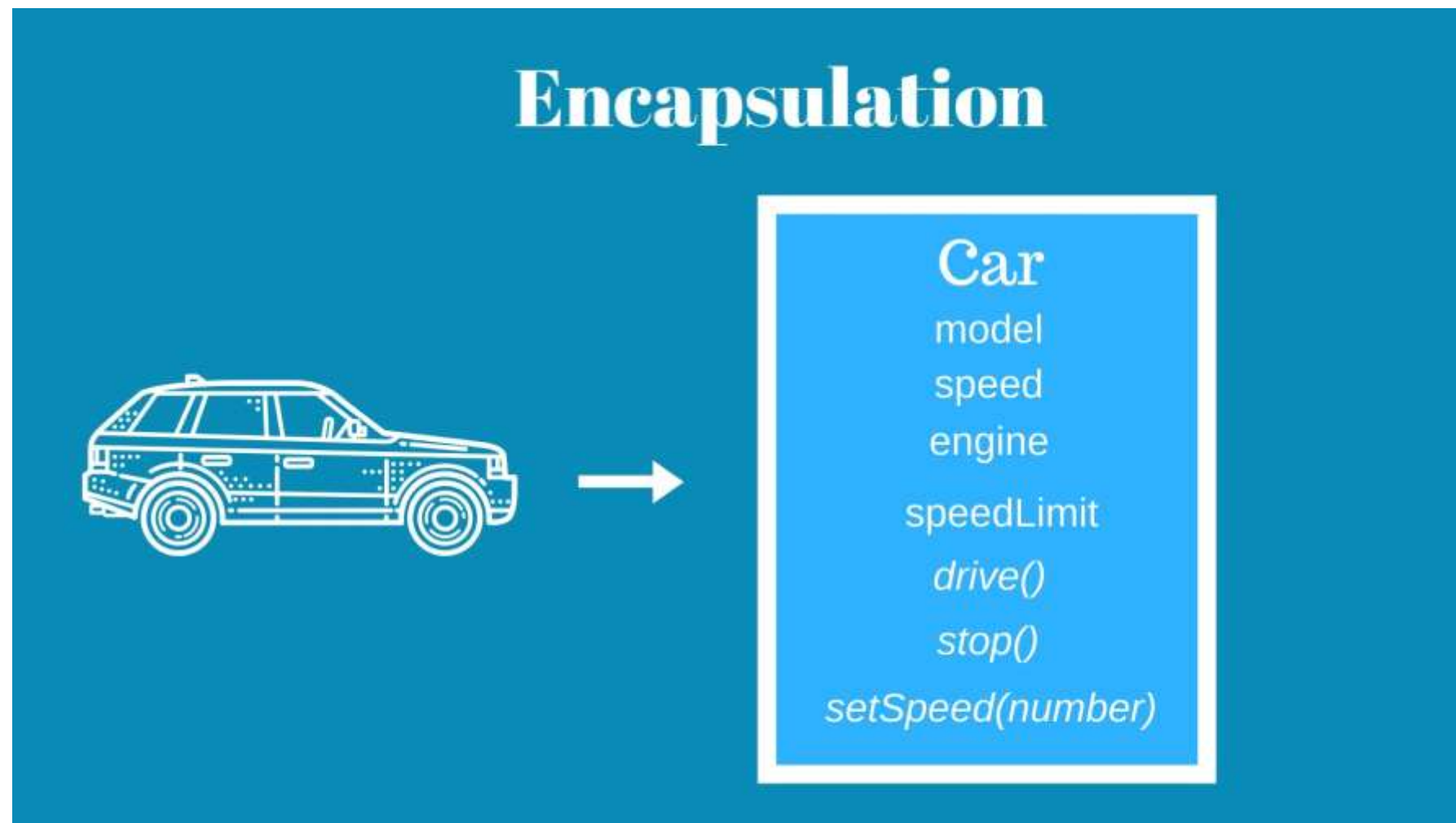


```
class
{

data members
    +
methods (behavior)

}
```

ENCAPSULATION

Variables

Methods

Fig: Encapsulation

THANK YOU