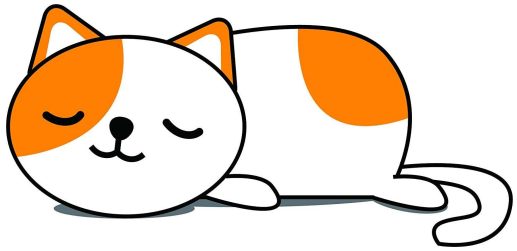
CLASS & OBJECT

Quick Examples

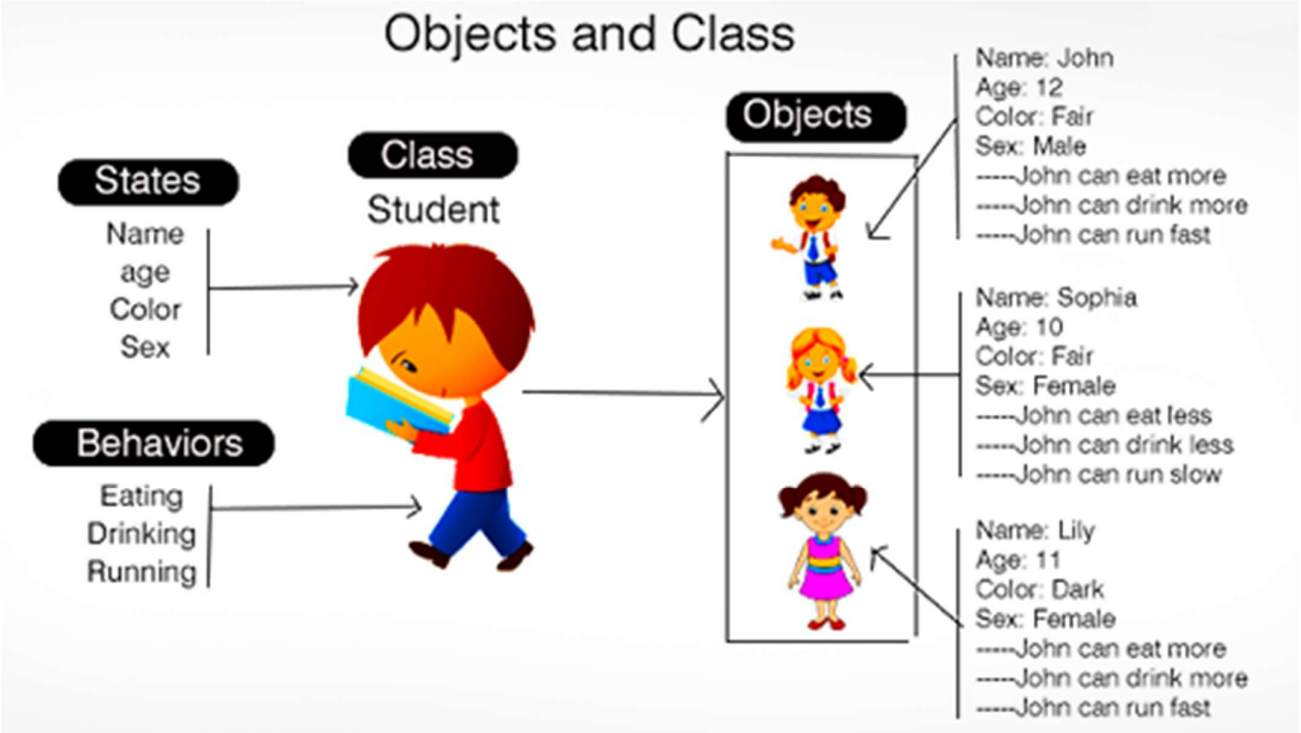
- **Class: Human** **Object: Man, Woman, Kid**
- **Class: Fruit** **Object: Apple, Banana, Grape**
- **Class: Food** **Object: Dosa, Pizza, Burger**

What is an object?



The two characteristics shown by Real World Objects

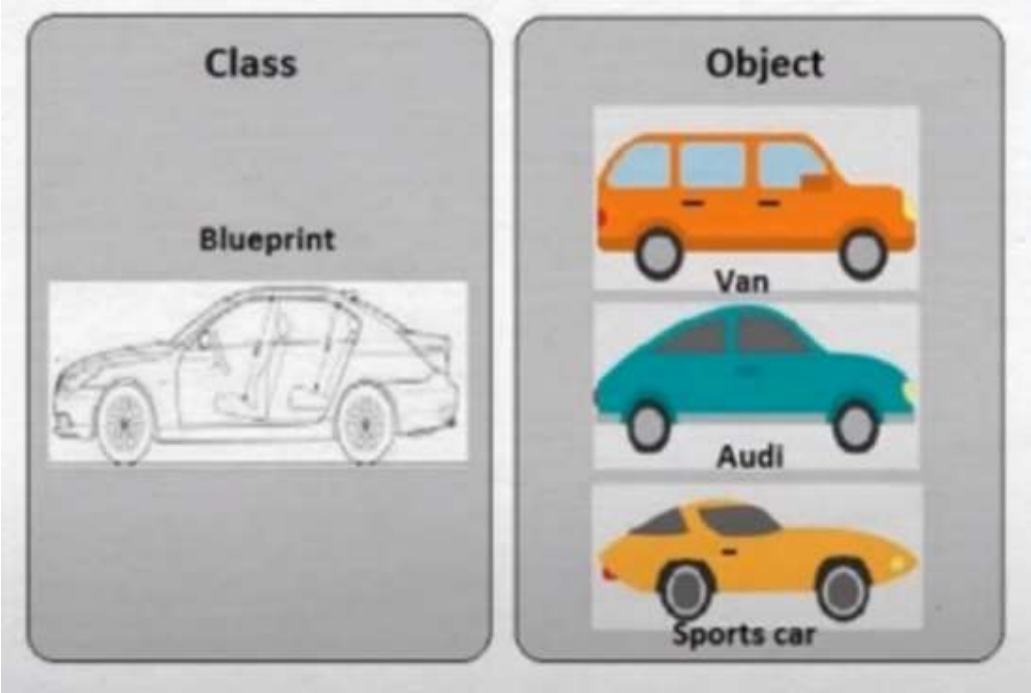
1. **State**
2. **Behaviour**



What is class?

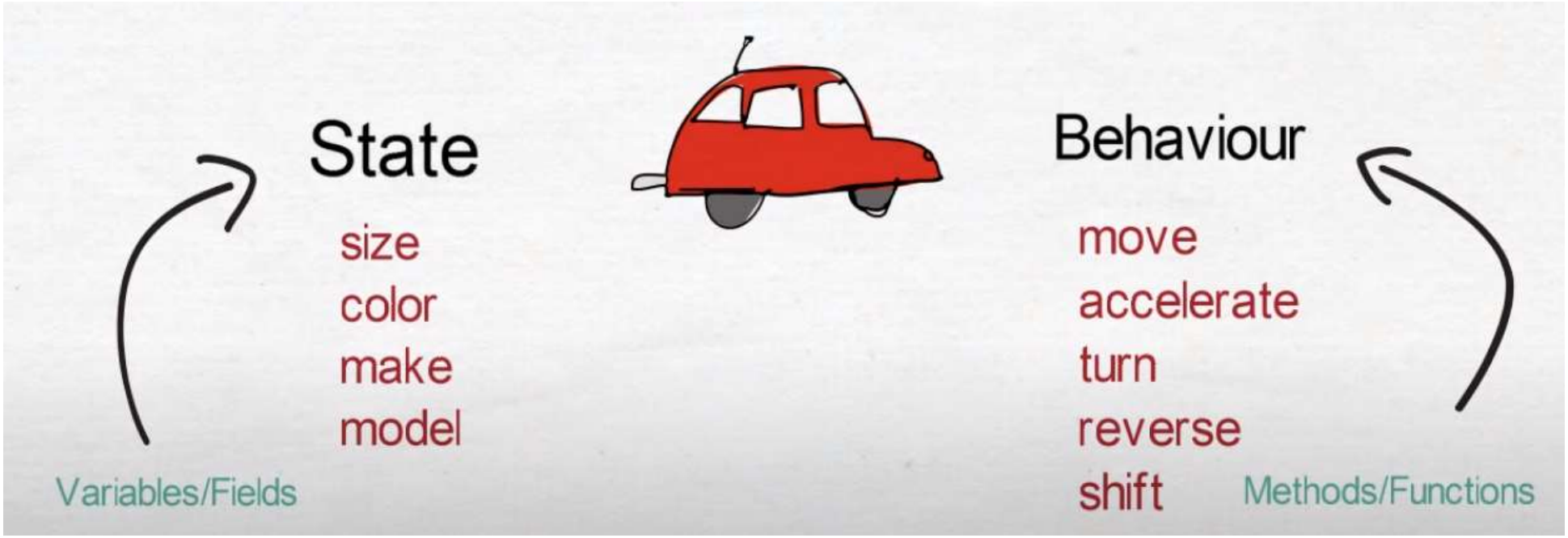
- **CLASS is a blueprint/template or a set of instructions to build a specific type of object.**

- **Class in Java determines how an object will behave and what the object will contain.**

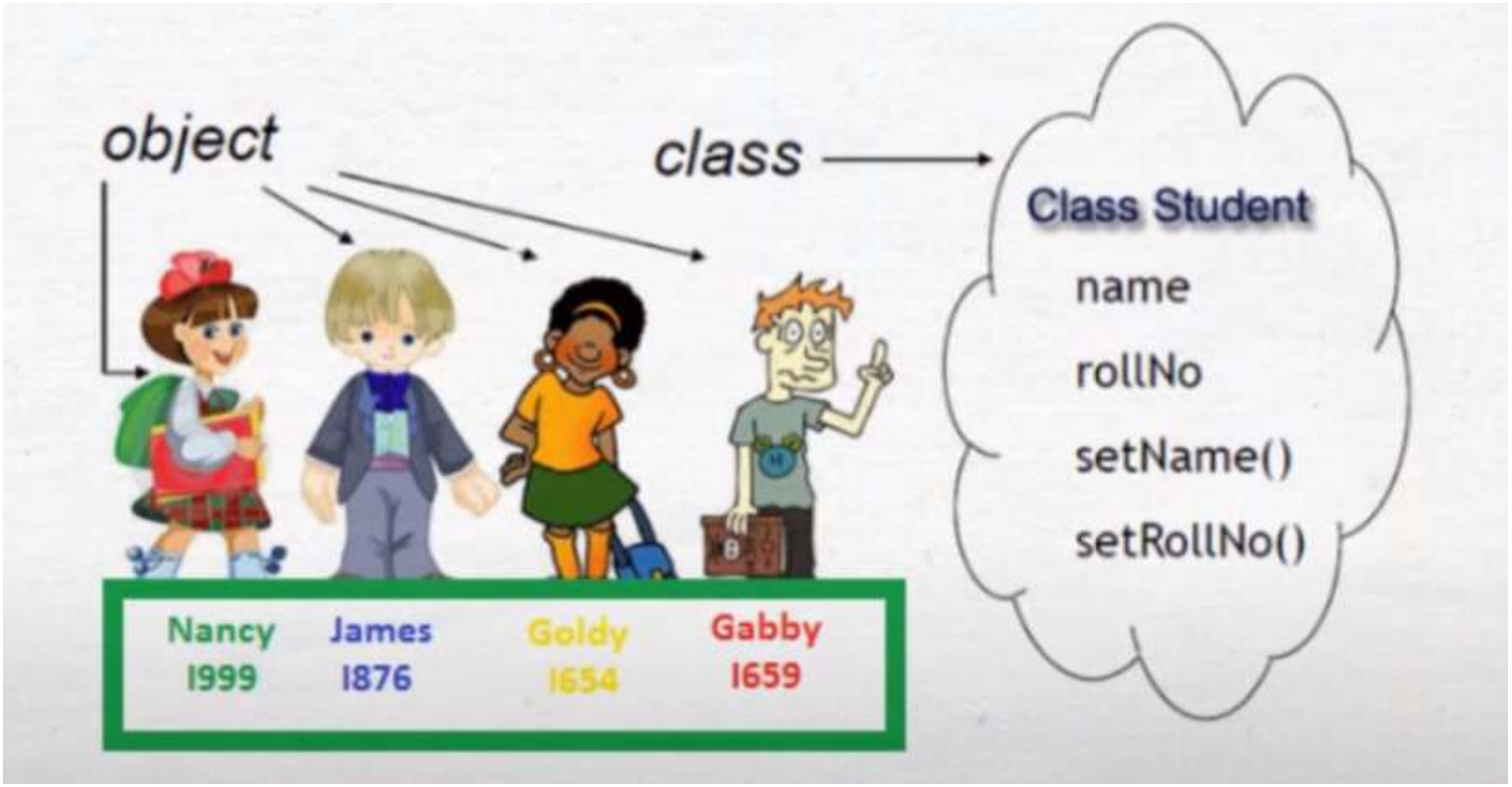


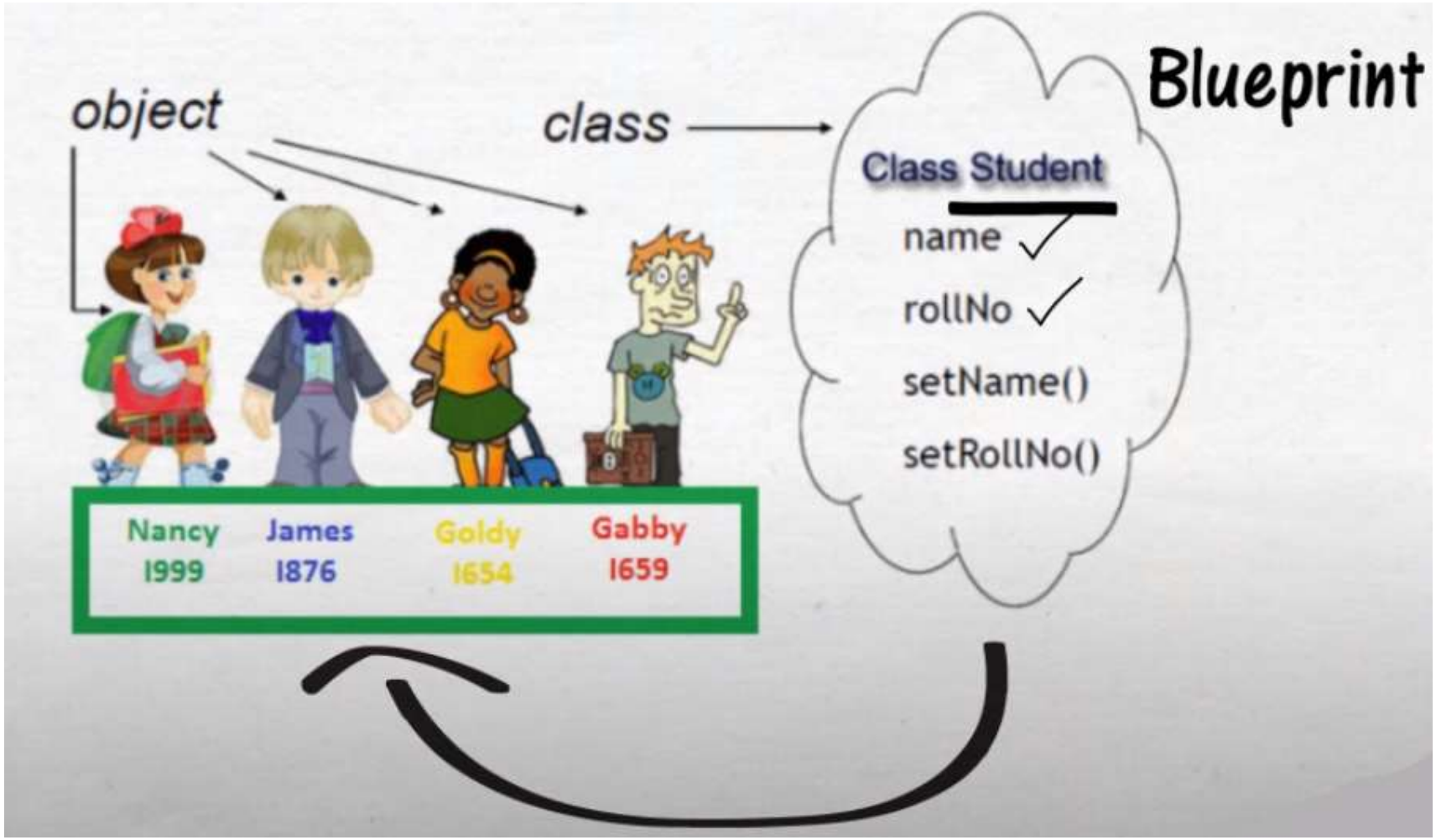
Example of class and object can be understood with the example of a car model which is the blueprint/class and object can be any type of cars made from the model.

The state and behaviour of the Car



Another Example




object
class
Blueprint
Class Student
name
rollNo
setName()
setRollNo()
Nancy
1999
James
1876
Goldy
1654
Gabby
1659

Syntax of creating class

```
class <class_name>{
    field;
    method;
  }
```

Syntax of creating object

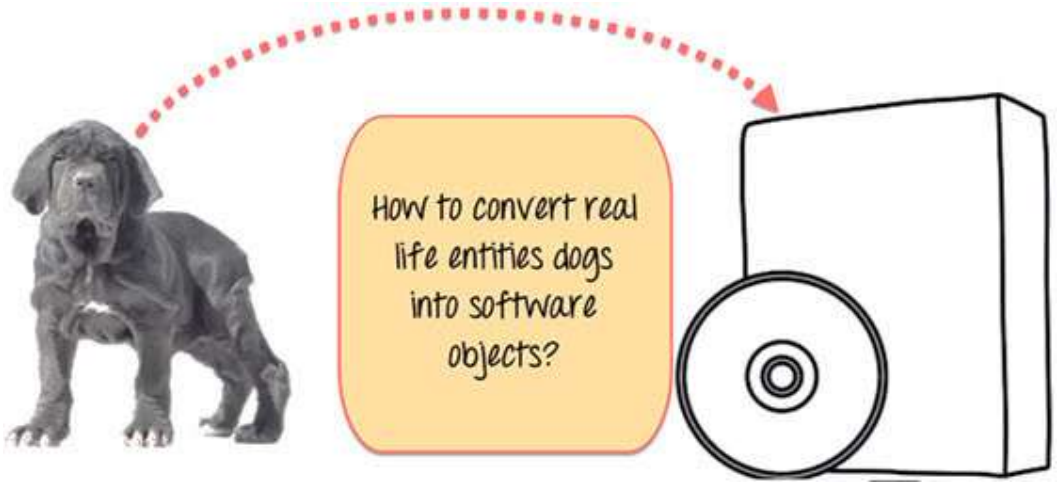
```
ClassName ReferenceVariable = new ClassName();
```

Difference between class and object

- A **class** is a blueprint or prototype that defines the **variables** and the **methods** (functions) common to all objects of a certain kind.

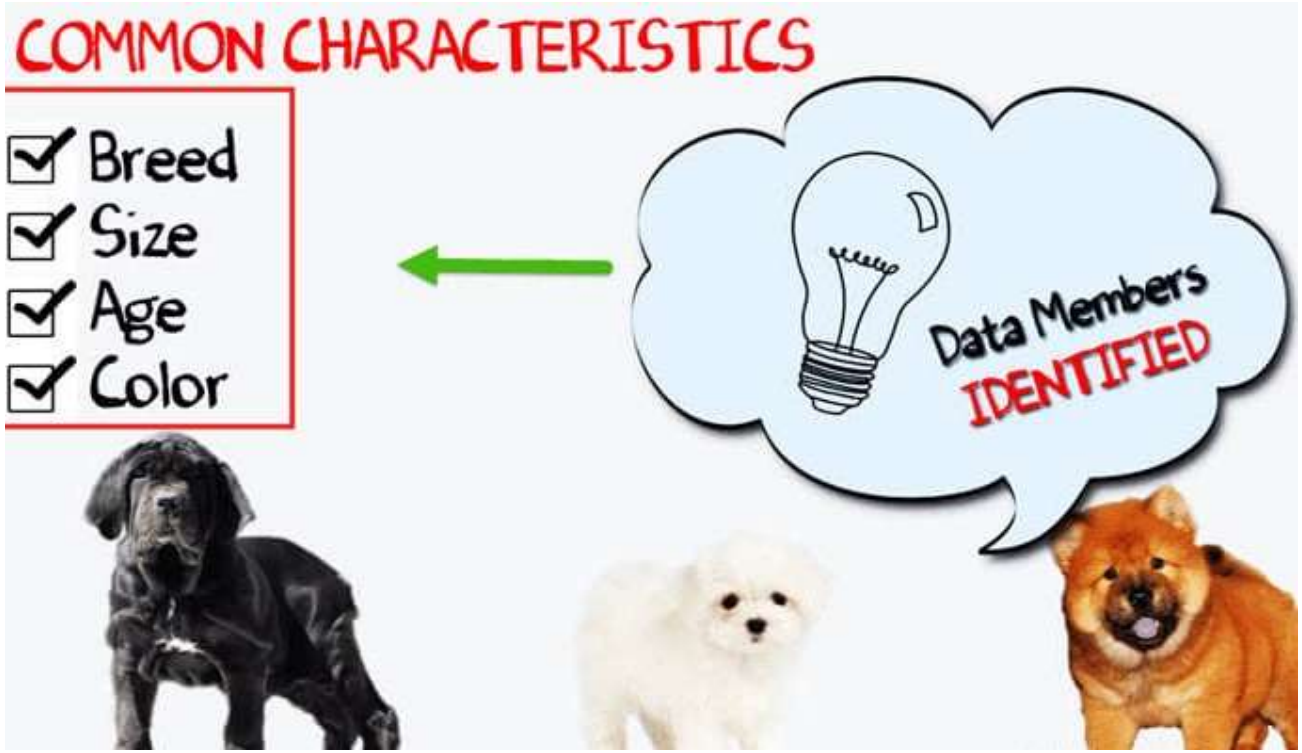
- An **object** is a specimen of a class. Software objects are often used to model real-world objects you find in everyday life.

Let us quickly take an example of a class Dog



You need to model real-life beings, i.e., dogs into software entities.

We can see there are some common characteristics if we observe the different breeds of the Dog.


COMMON CHARACTERISTICS
Breed
Size
Age
Color
Data Members
IDENTIFIED

Let's identify next the common behaviours of these dogs.

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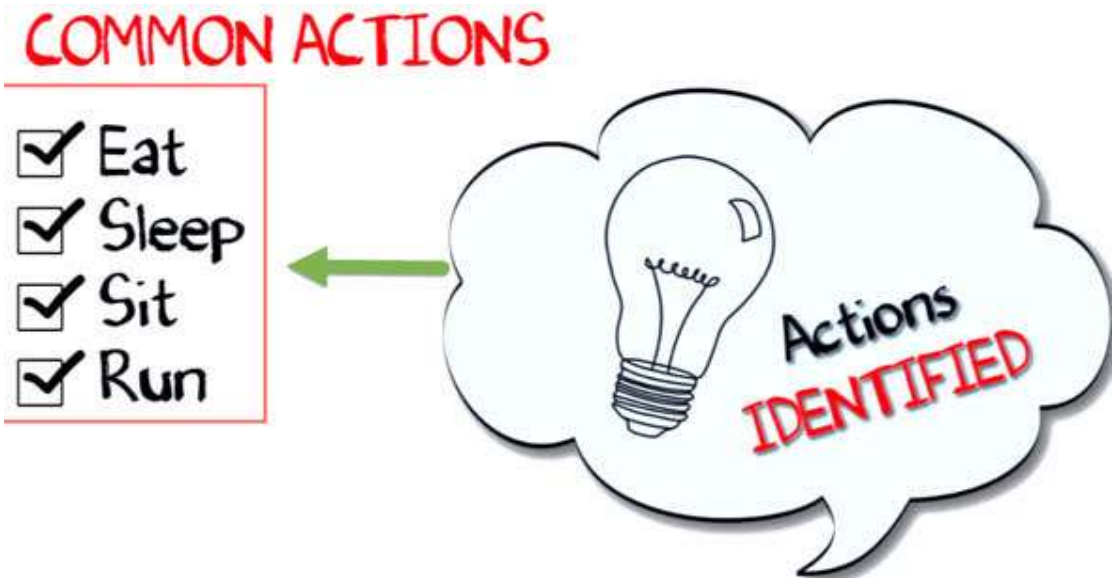
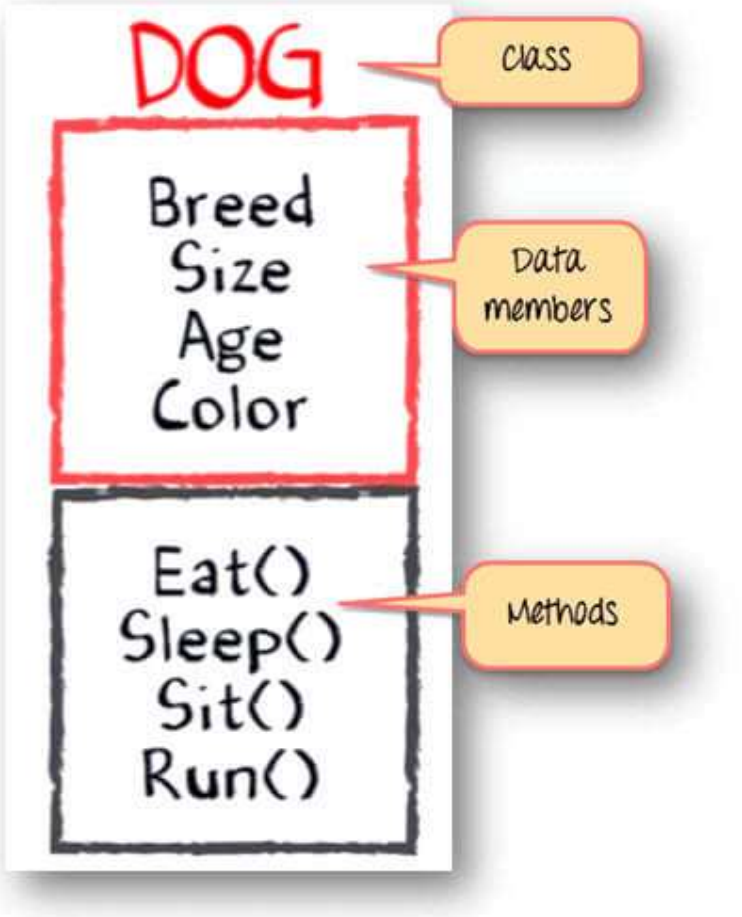


So now we can brief the class, members and methods of this example.



SUMMARY

- Java Class is an entity that determines how an object will behave and what the object will contain.

- A Java object is a self-contained component which consists of methods and properties to make certain type of data useful.

NEXT LECTURE: ENCAPSULATION