

JAVA CLASSES AND OBJECT MODULE (EASY & MEDIUM)

Class

1. Class is a set of object which shares common characteristics/ behavior and common properties/ attributes.
2. Class is not a real-world entity. It is just a template or blueprint or prototype from which objects are created.
3. Class does not occupy memory.
4. Class is a group of variables of different data types and a group of methods.

A class in java can contain:

- data member
- method
- constructor
- nested class and
- interface
- Animal
- Student
- Bird
- Vehicle
- Company

Syntax to declare a class:

```
access_modifier class<class_name>
```

```
{  
    data member;  
    method;  
    constructor;  
    nested class;  
    interface;  
}
```

EXAMPLE:

```
class Student {  
    int id; // data member (also instance variable)  
    String name; // data member (also instance variable)  
  
    public static void main(String args[])  
    {  
        Student s1 = new Student(); // creating an object of  
                                     // Student  
        System.out.println(s1.id);  
        System.out.println(s1.name);  
    }  
}
```

Object

It is a basic unit of Object-Oriented Programming and represents real-life entities. A typical Java program creates many objects, which as you know, interact by invoking methods. An object consists of :

1. **State:** It is represented by attributes of an object. It also reflects the properties of an object.
2. **Behavior:** It is represented by the methods of an object. It also reflects the response of an object with other objects.
3. **Identity:** It gives a unique name to an object and enables one object to interact with other objects.

Example of an object: dog

Reference:

<https://www.geeksforgeeks.org/classes-objects-java/>