

## Session –8 Classes and Objects (OOP)

Sunday, July 10, 2022 12:26 PM

### Today's Topic

- What is Object Oriented Programming (OOP)
- What are classes and objects
- How to create classes and object
  - ① ▪ classes and object example : main within the class
  - ② ▪ classes and object example: main outside the class
- How to initialize object/storing data into the object
  - By reference variable
  - By method

### Object Oriented Programming (OOP)

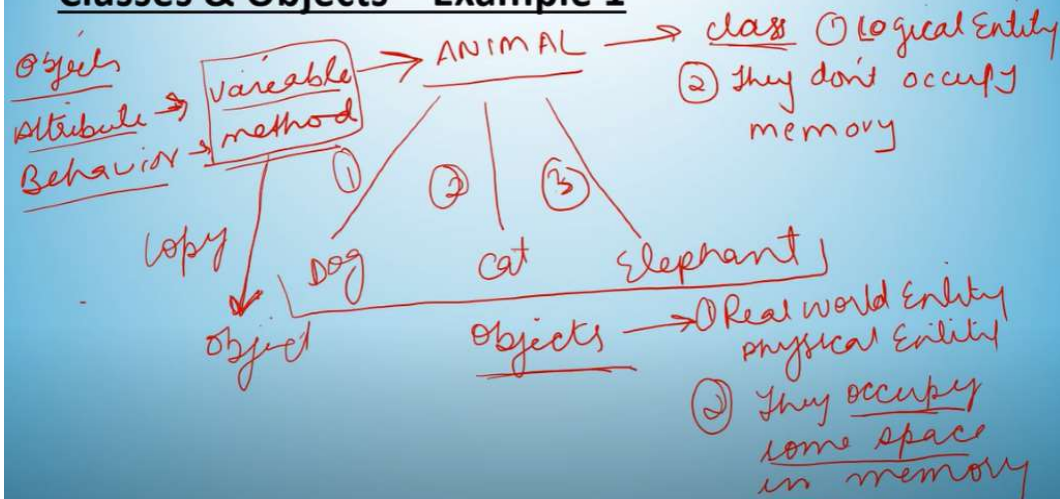
- **Classes**
- **Objects**
- **Inheritance**
- **Polymorphism**
- **Abstraction**
- **Encapsulation**

### Classes ,Objects & Methods

Class is a collection of variables and methods. Class is a logical entity and does not consume any space

Objects are instance of class and occupies some space in memory. Objects are real world entity. Objects have some attribute and behavior

## Classes & Objects – Example 1



## How to declare classes

```
class <class_name>{
    ✓ instance variables;
    ✓ constructor;
    ✓ methods;
}
```

## How to create object of class

We can create object of a class by using **new** keyword

## Ways to initialize object/ store data to the object

1. By reference variable
2. By method
3. By constructor (will explain in separate session)

```
Students.java
21
22
23 public static void main(String[] args) {
24     // TODO Auto-generated method stub
25
26     Students student1 = new Students();
27     Students student2 = new Students();
28
29     //initialise object/store data to the object student1
30
31     student1.name = "Priya";
32     student1.rollno = 101;
33
34     student2.name = "Rahul";
35     student2.rollno = 102;
36
37     //print information of student 1 & student 2
38
39     student1.displayInformation(); //Priya information will be displayed
40     student2.displayInformation(); //Rahul information will be displayed
41
42
43
44
45 }
46
```

```
*Students.java
23 System.out.println("Name: " + name);
```

```
24     System.out.println("Rollno:" + rollno);
25
26
27 }
28
29
30 public static void main(String[] args) {
31
32     Students student1 = new Students();
33     Students student2 = new Students();
34
35     //initialise object or store data to the objects student1 & student2
36     student1.insertRecord("Priya", 101);
37     student2.insertRecord("Rahul", 102);
38
39
40     //print information of student1 & student 2
41     student1.displayInformation();
42     student2.displayInformation();
43
44 }
45 }
46
47 }
48 }
```

