

Chapter 4

Introducing Classes, Objects and Methods

Based on the course
literature:

Java: A beginner's guide

Fifth Edition

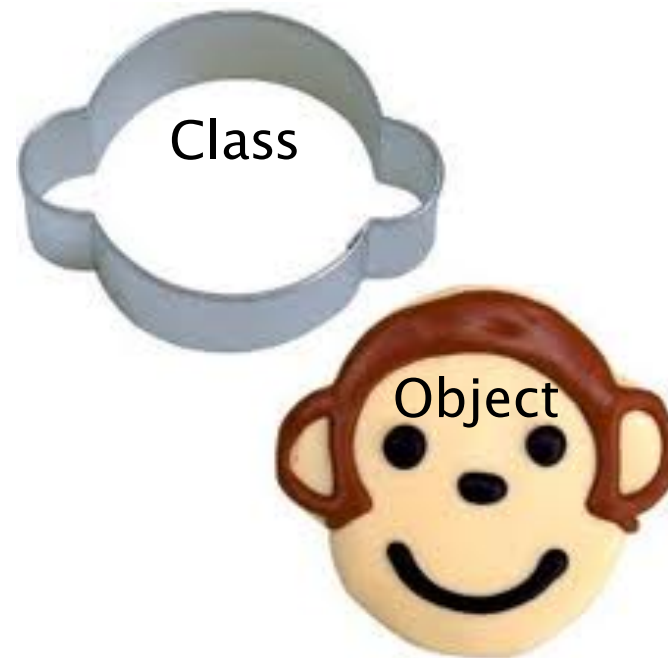
Herbert Schildt

What we'll cover

- Class fundamentals
- Object creation
- Referencing variables
- Methods

Classes

- A template that specify how to build an object.
- Variables and methods of a class are called “members” of the class.



A Class should represent an entity.

```
class ClassName {  
    // declare instance variables  
    type var1;  
    type var2;  
  
    type method(parameters){  
    }  
  
    type method2(parameters){  
    }  
}
```

Demo1 – create a class

Methods

```
void myMethod(int height, byte age) {  
    return; // one or more return is optional  
}
```

```
int myMethod(int height, byte age) {  
    return height * age;  
}
```


Object creation

- By reference
- `Vehicle sportsCar;`
- `sportsCar = new Vehicle();`

Constructor

- The constructor method is a method that is triggered when an object is created.
- It is used to initiate an object. Initiation is often setting instance variables but it can be much more than that.

```

class Vehicle {
    int passengers;
    int fuelcap;
    int liters100km;
    int range(){
        return ((fuelcap / liters100km) * 100);
    }
    Vehicle(int fuelcap){
        int liters100km = 10;
        this.fuelcap = fuelcap;
        this.liters100km = liters100km;
    }
    double fuelNeeded(int kms){
        return (double) (kms /100) * liters100km;
    }
}

```

Memory and variables