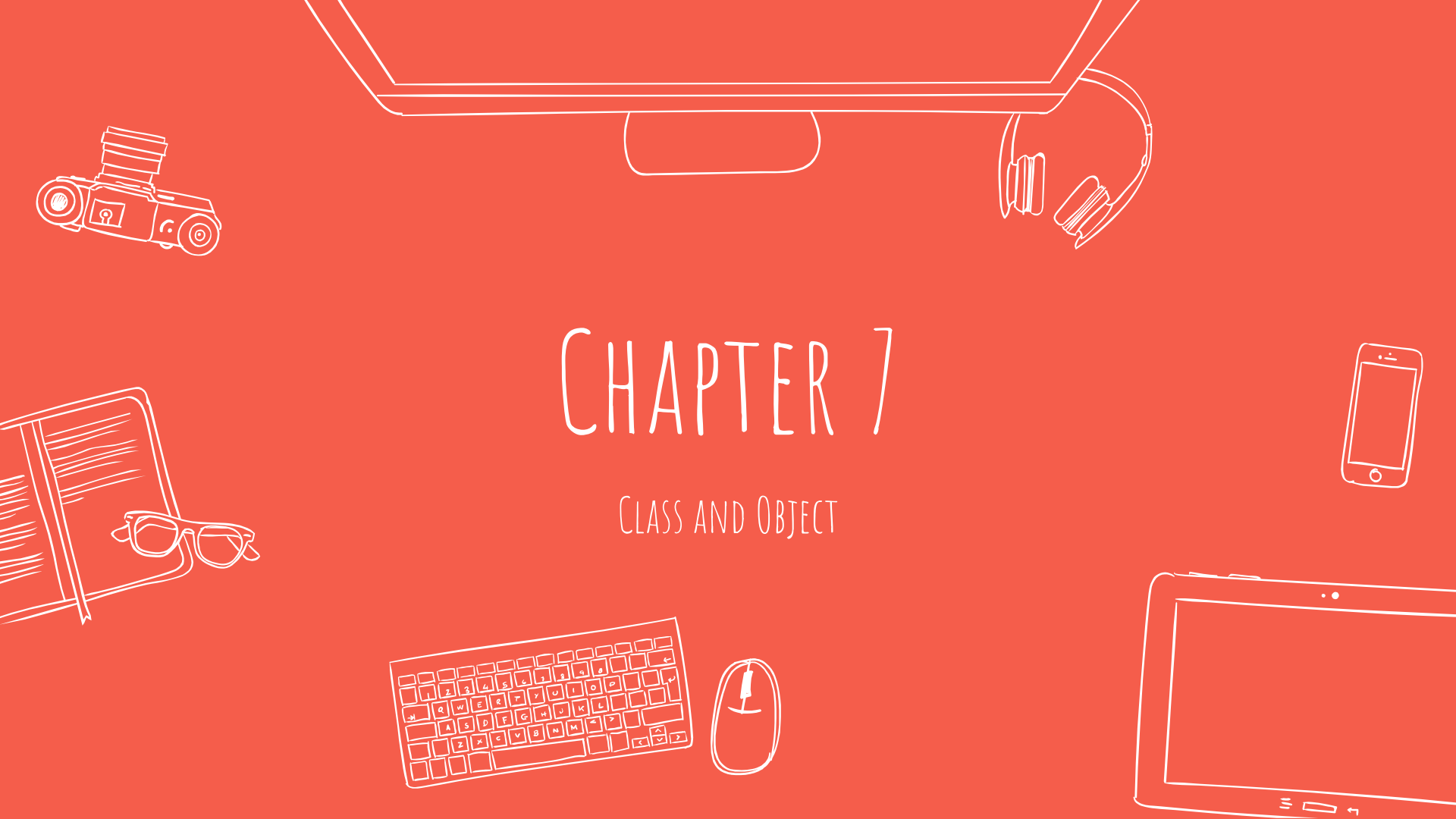# Chapter 7

Class and Object

Class

Student

Student has following attributes
- First Name
- Last Name
- Roll Number
- Address
- Email Address

Student

```java
// Class name starts with Capital letter
public class Student {
    // Attribute name starts with small letter
    private String firstName;
    private String lastName;
    private int rollNumber;
    private String address;
    private String emailAddress;
    //No main method in this class
}
```

Student

```java
public class Student {

    private String firstName;

    // Public method to set first name
    public void setFirstName(String firstName) {
        this.firstName = firstName;
    }
    // Public method to get first name
    public String getFirstName() {
        return firstName;
    }

    public void printDetails() {

        System.out.println("First name: " + firstName);

        System.out.println("Last name: " + lastName);

        System.out.println("Full name: " + getFullName());

    }

}
```

Student

firstName, lastName, address are attributes or in java term they are fields

Method like printDetails is called class method.

Fields define state of object

Method defines behavior of class.

Student

```java
public class StudentApplication {

    //Note: main method in this class
    public static void main(String[] args) {
            // Declare student1 variable with data type Student
            Student student1;
            // Create new student class and assign it to variable
            student1 = new Student();

            // Call Method on object
            student1.setFirstName("Oreo");
            student1.setLastName("Garothaya");

            // Access student attributes
            System.out.println("First name: " + student1.getFirstName());
            System.out.println("Last name: " + student1.getLastName());
    }

}
```

Class

student1 is an *instance* of the *class* Student.

class is the blueprint from which individual objects are created.

fisrtName, lastName etc. represents object state, while printDetails define its behavior with the outside world.

Quiz

What should be class modifier
    Private or public ? And why?

What is fields and method?

What is state of object?

What is behavior of class?

*What should be class method identifier
    Private or Public and why ?*

Quiz

What is difference between class and Object

What is OOP

What is encapsulation

Thanks!

Any questions?

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