JAVA
LAB # 03

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Lab Tasks

Exercise 1   Employee.java

Write a program that would print the information (name, year of joining, salary, address) of three
employees by creating a class named 'Employee'. The output should be as follows:

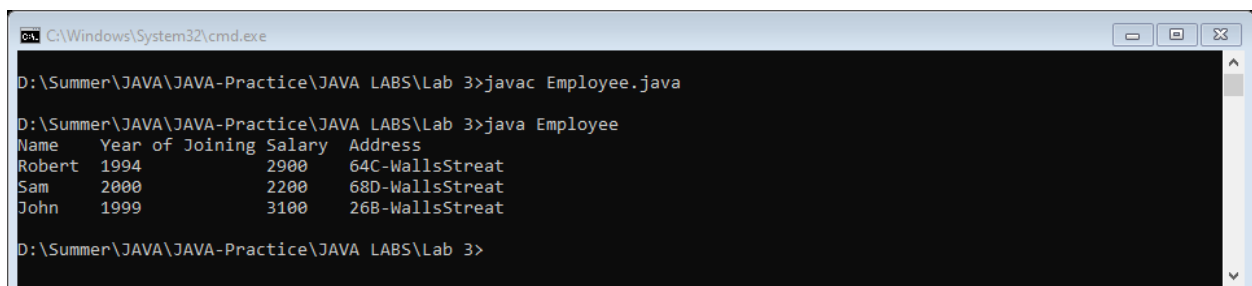| Name	Year of joining	Address
Robert	1994	64C- WallsStreat
Sam	2000	68D- WallsStreat
John	1999	26B- WallsStreat.

```java
class Employee {
    public static void main(String args[])
    {
        System.out.println("Name\tYear of Joining\tSalary\tAddress");

        Display obj1 = new Display();

        obj1.Disp("Robert",1994,2900,"64C-WallsStreat");
        obj1.Disp("Sam",2000,2200,"68D-WallsStreat");
        obj1.Disp("John",1999,3100,"26B-WallsStreat");

    }
}

class Display {

    void Disp(String name,int year,int salary,String address) {
        System.out.println(name+"\t"+year+"\t\t"+salary+"\t"+address);
    }
}
```

```
C:\Windows\System32\cmd.exe

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>javac Employee.java

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>java Employee
Name    Year of Joining Salary  Address
Robert  1994            2900    64C-WallsStreat
Sam     2000            2200    68D-WallsStreat
John    1999            3100    26B-WallsStreat

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>
```

Exercise 2   **EmployeeInfo.java**

Write a program by creating an 'EmployeeInfo' class having the following methods and print the final salary.
1 - 'getInfo()' which takes the salary, number of hours of work per day of employee as parameter
2 - 'AddWork()' which adds $5 to salary of employee if the number of hours of work per day is more than 6 hours.

```java
class Employee {
    public static void main(String args[])
    {
        EmployeeInfo obj1 = new EmployeeInfo();

        obj1.getInfo(2900,4);
        obj1.getInfo(2200,8);
        obj1.getInfo(3100,12);

    }
}

class EmployeeInfo {

    void getInfo(int salary,int hoursOfWork) {
        if(hoursOfWork>6)
        {
            int newSalary = AddWork(salary);
            System.out.println("Your New Salary is : "+newSalary);
        }
        else
        {
            System.out.println("Your Salary is : "+salary);
        }
    }

    int AddWork(int salary) {

        return salary+=5;
    }
}
```
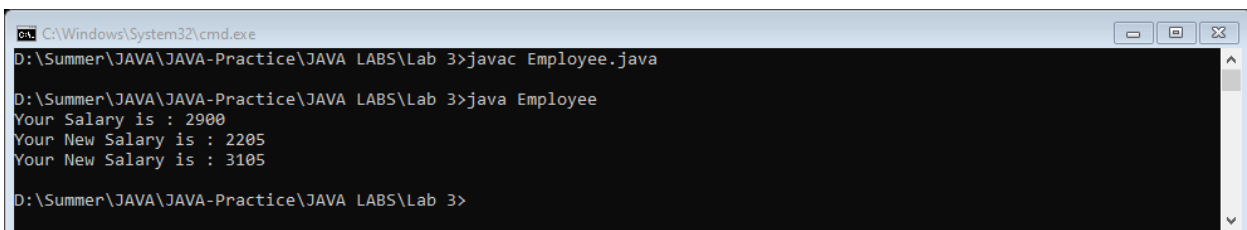
```
C:\Windows\System32\cmd.exe
D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>javac Employee.java

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>java Employee
Your Salary is : 2900
Your New Salary is : 2205
Your New Salary is : 3105

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>
```

Exercise 3   Vehicle.java

Create a class Vehicle. The class should have two fields-no_of_seats and no_of_wheels. Create two objects-Motorcycle and Car for this class. Your output should show the descriptions for Car and Motorcycle.
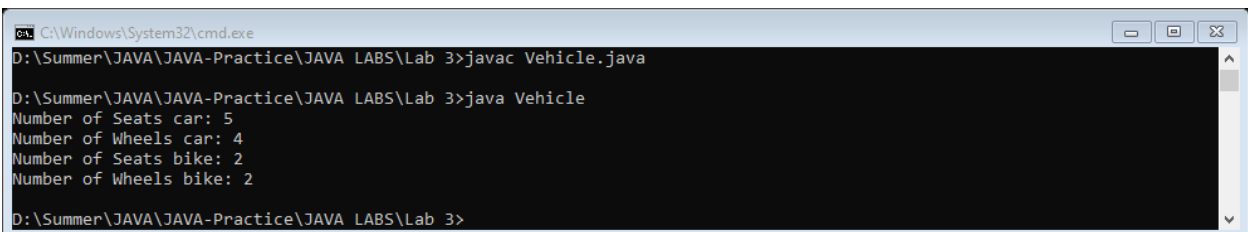
```java
public class Vehicle {

    public static void Car(int no_of_seats, int no_of_wheels) {
        System.out.println("Number of Seats car: "+no_of_seats);
        System.out.println("Number of Wheels car: "+no_of_wheels);
    }

    public static void MotorCycle(int no_of_seats, int no_of_wheels) {
        System.out.println("Number of Seats bike: "+no_of_seats);
        System.out.println("Number of Wheels bike: "+no_of_wheels);
    }

    public static void main(String args[])
    {
        int no_of_seats  = 5;
        int no_of_wheels = 4;
        Car(no_of_seats,no_of_wheels);


        int _no_of_seats  = 2;
        int _no_of_wheels = 2;
        MotorCycle(_no_of_seats,_no_of_wheels);



    }
}
```

```
C:\Windows\System32\cmd.exe
D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>javac Vehicle.java

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>java Vehicle
Number of Seats car: 5
Number of Wheels car: 4
Number of Seats bike: 2
Number of Wheels bike: 2

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>
```

Exercise 4   Temprature.java

Write a program that inputs temperature in Celsius and converts it into Fahrenheit.

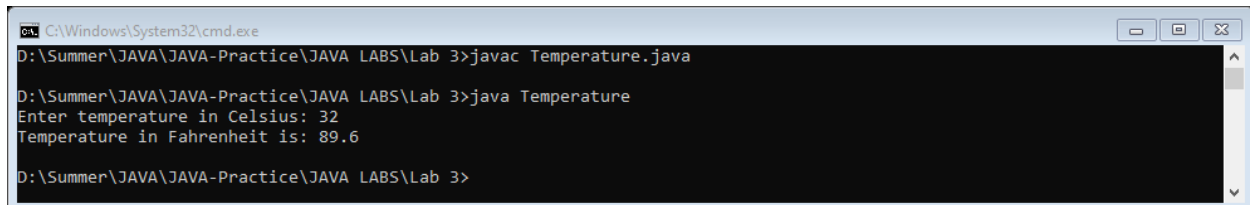Fahrenheit=1.8 x Celsius +32

```java
import java.util.Scanner;

class Temperature {

    public static void main(String args[])
    {
        Scanner input = new Scanner(System.in);

        System.out.print("Enter temperature in Celsius: ");
        float temp = input.nextFloat();

        float Fahrenheit = (1.8f * temp) +32f;
        System.out.println("Temperature in Fahrenheit is: "+Fahrenheit);
    }
}
```

```
C:\Windows\System32\cmd.exe

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>javac Temperature.java

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>java Temperature
Enter temperature in Celsius: 32
Temperature in Fahrenheit is: 89.6

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>
```

Exercise 5   Year.java

Write a program that inputs the year a person is born in and returns the age of the person.

Example: Person born in 1991 then age is 30

```java
import java.util.Scanner;

class PersonAge {

    public static void main(String args[])
    {
        Scanner input = new Scanner(System.in);

        System.out.print("Enter your born year: ");
        int year = input.nextInt();

        int Year = 2021 - year;
```
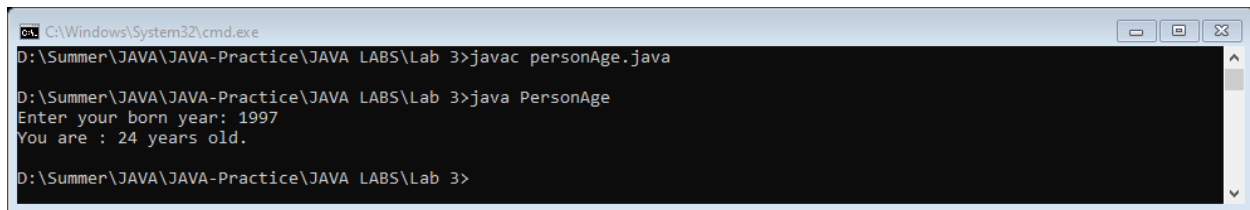
```
                System.out.println("Person born in "+year+"then age is "+Year+".");
        }
}
```

```
C:\Windows\System32\cmd.exe
D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>javac personAge.java

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>java PersonAge
Enter your born year: 1997
You are : 24 years old.

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>
```

Exercise 6   ShipTest.java

Develop an application that computes the total cost of an order.

Sample output:

Number of Bags Ordered: 52
The Cost of Order: $ 286.00

Boxes Used:
        2 Large - $3.60
        1 Medium - $1.00
        1 Small - $0.60

Your total cost is: $ 291.20

```java
import java.util.Scanner;

class TotalCost {

    public static void main(String args[])
    {
        Scanner input = new Scanner(System.in);

        System.out.print("Enter no of Large Boxes: ");
        int large = input.nextInt();

        System.out.print("Enter no of Medium Boxes: ");
        int medium = input.nextInt();

        System.out.print("Enter no of Small Boxes: ");
        int small = input.nextInt();

        int count = large + medium + small;

        float large_cost = 3.6f * large;
        float medium_cost = 1 * medium;
        float small_cost = 0.6f * small;
```

```
        float totalCost = large_cost + medium_cost + small_cost;

        System.out.println("\n\nNumber of Bags Ordered: "+count);
        System.out.println("The cost of Order: $"+totalCost);
    }
}
```

```
C:\Windows\System32\cmd.exe
D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>javac TotalCost.java

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>java TotalCost
Enter no of Large Boxes: 2
Enter no of Medium Boxes: 1
Enter no of Small Boxes: 1


Number of Bags Ordered: 4
The cost of Order: $8.8

D:\Summer\JAVA\JAVA-Practice\JAVA LABS\Lab 3>
```

1. Can constructors be private?

Yes, we can declare a constructor as private. If we declare a constructor as private we are not able to create an object of a class.

2. Can a non-static method access a static variable or call a static method?

Non-static methods can access any static method and static variable also, without using the object of the class.

3. State differences between java constructor and java methods?

Following are the difference between constructor and method.

- Constructor is used to initialize an object whereas method is used to exhibits functionality of an object.

- Constructors are invoked implicitly whereas methods are invoked explicitly.

- Constructor does not return any value where the method may/may not return a value.

- In case constructor is not present, a default constructor is provided by java compiler. In the case of a method, no default method is provided.

- Constructor should be of the same name as that of class. Method name should not be of the same name as that of class.

End of Lab 3