

# Object-Oriented Programming Lab#2 – Spring 25

## Today's Topics

- Flow Controls: If, While, For, Do-While
- Recursion
- User Input
- Array

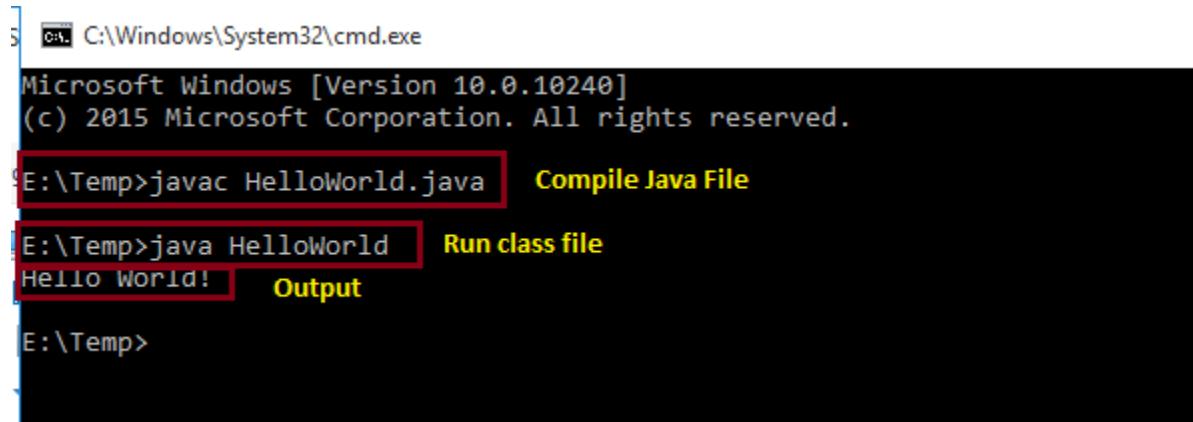
### Code to read user input using Scanner: (need to import java.util.Scanner)

```
Scanner scan = new Scanner (System . in ) ;  
int inputNum = scan.nextInt();  
double input = scan.nextDouble();
```

### Code to read user input using JOptionPane: (need to import javax.swing.JOptionPane)

```
static String showInputDialog(Component parentComponent, Object message)  
  
String name = JOptionPane.showInputDialog(null, "enter name");
```

### Screenshot of command to compile and run using command prompt



The screenshot shows a Windows Command Prompt window with the following text:

```
C:\Windows\System32\cmd.exe  
Microsoft Windows [Version 10.0.10240]  
(c) 2015 Microsoft Corporation. All rights reserved.  
  
E:\Temp>javac HelloWorld.java  Compile Java File  
  
E:\Temp>java HelloWorld  Run class file  
Hello World!  Output  
  
E:\Temp>
```

The command `javac HelloWorld.java` is highlighted in red and labeled "Compile Java File". The command `java HelloWorld` is highlighted in red and labeled "Run class file". The output "Hello World!" is highlighted in red and labeled "Output".

## Problems/Assignments

1. Write a Java application that will prompt the user to provide a number as input. Read input as a number and display the square of the number.

Sample Input	Expected Output
7	49
-8	64
3	9

2. Write a java program that will prompt the user to provide a number as input. Read input as a number and display whether **the number is even or odd**.

Sample Input	Expected Output
7	Odd
8	Even
11	Odd

3. Write a java program to determine whether **a given number is prime or not**.

Sample Input	Expected Output
7	Prime
9	Not Prime
11	Prime

4. Write a program that will take an **integer number**, and print the day of the week depending on the number. To find the day of the week, you need to divide the number by 7 and find the remainder. The day will have the following value depending on the remainder.

Remainder	Day of the Week
0	Saturday
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday

Sample Input	Expected Output	Explanation
9	Monday	As $9\%7 = 2$ , the output is Monday

14	Saturday	As $14\%7 = 0$ , the output is Saturday according to the above table.
27	Friday	As $27\%7 = 6$ , the output is Friday according to the above table.

5. Write a program that will take two **integer numbers** from user, and print the LCM of those numbers.

Sample Input	Expected Output
2, 3	6
4, 6	12
3, 9	9

6. Write a Java program that will take 10 numbers from user and only print the numbers (among those 10 numbers) that are divisible by 3 or 5 but not both.
7. Write a program in java to display the **summation** of the even digits of a number.

Sample Input	Expected Output	Explanation
472	6	1 <sup>st</sup> and 3 <sup>rd</sup> digits are even. Hence, $4+2 = 6$
90357	0	No even digit
1820	10	2 <sup>nd</sup> and 3 <sup>rd</sup> digits are even. Hence, $8+2=10$

8. Write a java program to print the Fibonacci series up to n<sup>th</sup> item. The value of n will be provided by the user as input.

Sample Input	Expected Output
2	1, 1
4	1, 1, 2, 3
7	1, 1, 2, 3, 5, 8, 13

9. Write a java program and print the factorial of number n which will be provided by the user as input. If  $n < 0$ , print “Factorial is only applicable for positive number”.

Note: Use recursion.

Sample Input	Expected Output
0	1
1	1
7	5040

10. Write a Java program that will go through the items of an **array** and find the **max** and **min** values. Take the following values as the input of the array

Sample Input	Expected Output
{11, 4, 5, 3, 9, 13, 1}	Max: 13 Min: 1
{9, -3, 2, 22, -7}	Max: 22 Min: -7
{-11, -4, -5, -3, -9, -13, -1}	Max: -1 Min: -13