

**Experiment No. 02**  
**Experiment Name: Implementation of Variables and Conditional Statements**

*Course title: Programming Language II(Java) Lab*  
*Course code:*  
*Spring 2025*

**Date of Submission:**

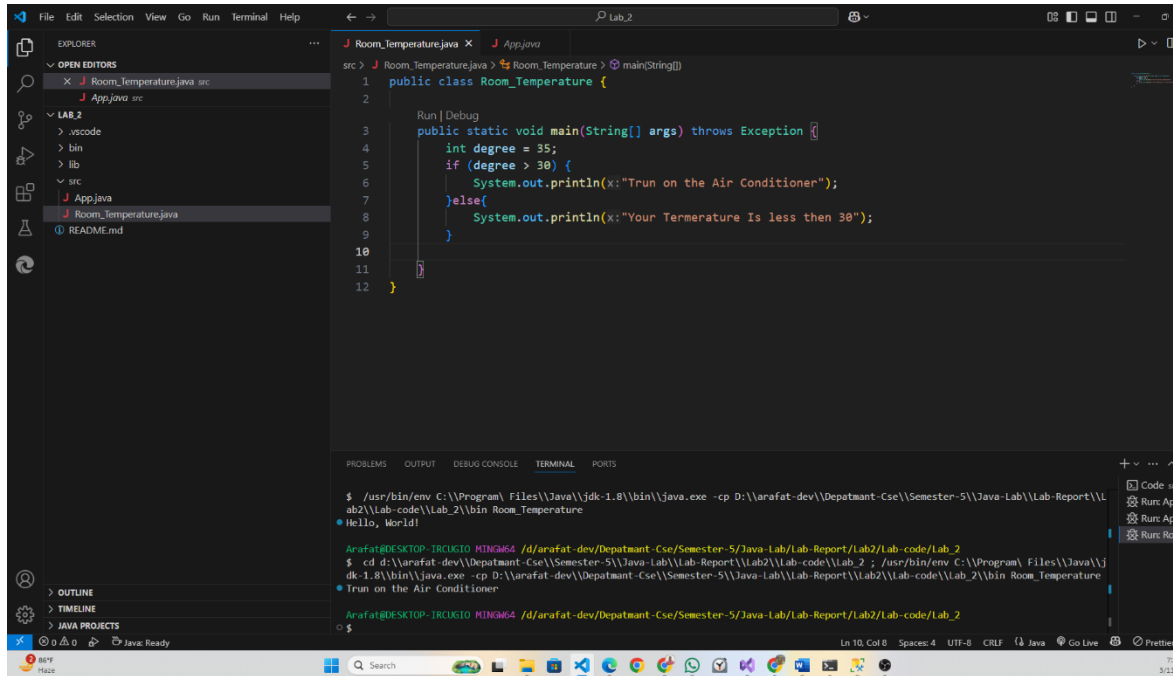


**Submitted to-**

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**Hw- 1:** Write a java program to check the room temperature, if it is greater than 30 degree print the turn on the air conditioner.

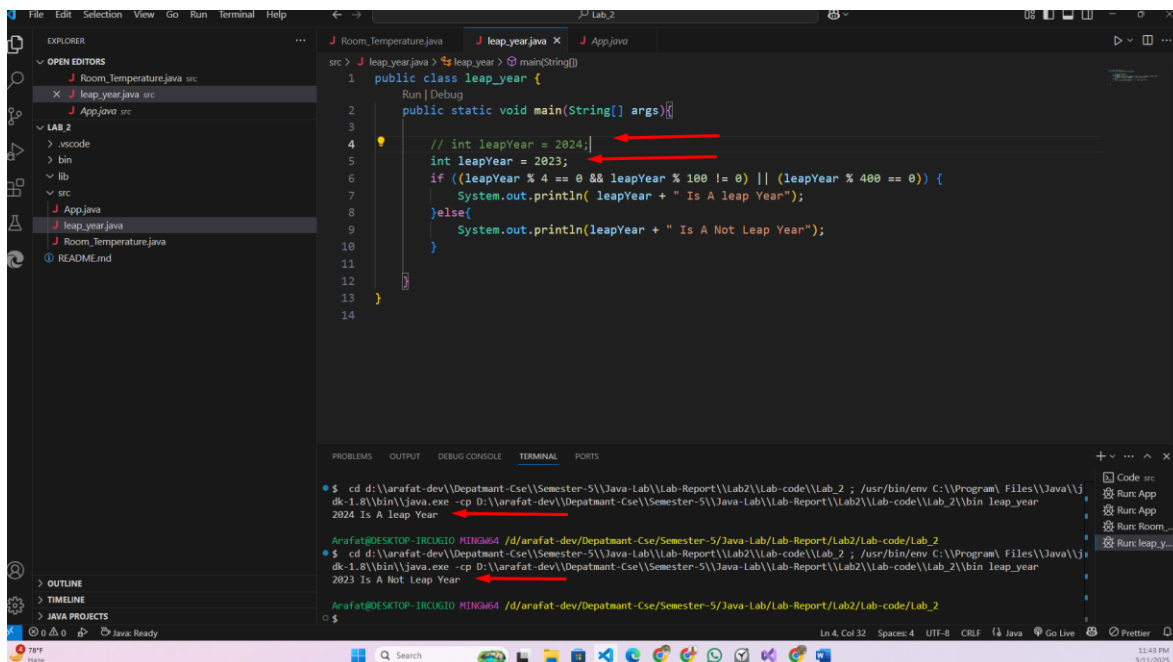


The screenshot shows a Visual Studio Code editor with a Java project named 'Lab\_2'. The file explorer on the left shows the project structure. The main editor displays a file named 'Room\_Temperature.java' with the following code:

```
1 public class Room_Temperature {
2
3     Run | Debug
4     public static void main(String[] args) throws Exception {
5         int degree = 35;
6         if (degree > 30) {
7             System.out.println("Trun on the Air Conditioner");
8         }else{
9             System.out.println("Your Termerature Is less then 30");
10        }
11    }
12 }
```

The terminal at the bottom shows the execution of the program, outputting 'Hello, World!' and 'Trun on the Air Conditioner'.

**Hw- 2:** Write a java program to check a given year is leap year or not.



The screenshot shows a Visual Studio Code editor with a Java project named 'Lab\_2'. The file explorer on the left shows the project structure. The main editor displays a file named 'leap\_year.java' with the following code:

```
1 public class leap_year {
2
3     Run | Debug
4     public static void main(String[] args){
5         // int leapYear = 2024;
6         int leapYear = 2023;
7         if ((leapYear % 4 == 0 && leapYear % 100 != 0) || (leapYear % 400 == 0)) {
8             System.out.println( leapYear + " Is A leap Year");
9         }else{
10            System.out.println(leapYear + " Is A Not Leap Year");
11        }
12    }
13 }
14 }
```

The terminal at the bottom shows the execution of the program, outputting '2024 Is A leap Year' and '2023 Is A Not Leap Year'.

# Ternary Operator

```
src > Ternary_Operator.java > Ternary_Operator > main(String[])
1 import java.util.Scanner;
2
3 public class Ternary_Operator {
4     Run | Debug
5     public static void main(String[] args) {
6         Scanner scanner = new Scanner(System.in);
7
8         System.out.print(s:"Enter a year: ");
9         int Number = scanner.nextInt();
10
11         String result = (Number %2==0)
12             ? Number + " is a Even Number."
13             : Number + " is a odd Number.";
14
15         System.out.println(result);
16
17         scanner.close();
18     }
19 }
```

Enter a year: 32  
32 is a Even Number.

Enter a year: 13  
13 is a odd Number.

**Hw- 3:** Write a java program to demonstrate the Letter Grade for a given mark.

```
src > Grade_Mark.java > Grade_Mark > main(String[])
1 import java.util.Scanner;
2
3 public class Grade_Mark {
4     Run | Debug
5     public static void main(String[] args) {
6         Scanner GradeMark = new Scanner(System.in);
7         System.out.println(s:"Enter Your Number:");
8         float Number = GradeMark.nextFloat();
9
10        if(Number > 100) {
11            System.out.println(s:"Invalid Number");
12        }
13        else if(Number >= 80) {
14            System.out.println(s:"A+");
15        }
16        else if (Number >= 75 && Number < 80) {
17            System.out.println(s:"A");
18        }
19        else if (Number >= 70 && Number < 75) {
20            System.out.println(s:"B+");
21        }
22        else if (Number >= 65 && Number < 70) {
23            System.out.println(s:"B");
24        }
25        else if (Number >= 60 && Number < 65) {
26            System.out.println(s:"C+");
27        }
28        else if (Number >= 55 && Number < 60) {
29            System.out.println(s:"C");
30        }
31        else if (Number >= 50 && Number < 55) {
32            System.out.println(s:"D+");
33        }
34        else if (Number >= 45 && Number < 50) {
35            System.out.println(s:"D");
36        }
37        else if (Number >= 40 && Number < 45) {
38            System.out.println(s:"E");
39        }
40        else if (Number >= 35 && Number < 40) {
41            System.out.println(s:"F (Fail)");
42        }
43        else {
44            System.out.println(s:"F (Fail)");
45        }
46        GradeMark.close();
47    }
48 }
```

Enter Your Number:  
101  
Invalid Number

Enter Your Number:  
62

**Hw-4:** Write a Java Program to check whether a char is vowel or Consonant using Switch Case.

```

src > largest_Number.java > largest_Number > main(String[])
1 import java.util.Scanner;
2
3 public class largest_Number {
4     public static void main(String[] args) {
5         Scanner largest = new Scanner(System.in);
6         System.out.print("Enter first number: ");
7         int num1 = largest.nextInt();
8         System.out.print("Enter second number: ");
9         int num2 = largest.nextInt();
10        System.out.print("Enter third number: ");
11        int num3 = largest.nextInt();
12
13        if (num1 >= num2 && num1 >= num3) {
14            System.out.println(num1 + " is the largest number.");
15        } else if (num2 >= num1 && num2 >= num3) {
16            System.out.println(num2 + " is the largest number.");
17        } else {
18            System.out.println(num3 + " is the largest number.");
19        }
20        largest.close();
21    }
22 }

```

Terminal Output:

```

$ /usr/bin/env C:\Program Files\Java\jdk-1.8\bin\java.exe -cp D:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2
\bin largest_Number
Enter first number: 12
Enter second number: 13
Enter third number: 18
18 is the largest number.

Ararat@DESKTOP-TRCUG3D KINGMA4 /d/ararat-dev/Deputant-Cse/Semester-5/Java-Lab/Lab-Report/Lab2/Lab-code/Lab_2
$ cd d:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2 ; /usr/bin/env C:\Program Files\Java\jdk-1.8\bin\java.exe
-cp D:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2\bin largest_Number
Enter first number: 5
Enter second number: 70
Enter third number: 85
85 is the largest number.

Ararat@DESKTOP-TRCUG3D KINGMA4 /d/ararat-dev/Deputant-Cse/Semester-5/Java-Lab/Lab-Report/Lab2/Lab-code/Lab_2
$

```

**Hw-5:** Write a Java Program to check whether a char is vowel or Consonant using Switch Case.

```

src > Switch_Vowel.java > Switch_Vowel > main(String[])
1 public class Switch_Vowel {
2     public static void main(String[] args) {
3         Scanner alphabet = new Scanner(System.in);
4         System.out.println("Enter Your alphabet");
5         char alpha = alphabet.next().toLowerCase().charAt(0);
6         switch (alpha) {
7             case 'a':
8                 System.out.println(alpha + " is a vowel");
9                 break;
10            case 'e':
11                System.out.println(alpha + " is a vowel");
12                break;
13            case 'i':
14                System.out.println(alpha + " is a vowel");
15                break;
16            case 'o':
17                System.out.println(alpha + " is a vowel");
18                break;
19            case 'u':
20                System.out.println(alpha + " is a vowel");
21                break;
22            default:
23                System.out.println(alpha + " is a Consonant.");
24                break;
25        }
26        alphabet.close();
27    }
28 }

```

Terminal Output:

```

a
a is a vowel

Ararat Focus folder in explorer (ctrl + click) /d/ararat-dev/Deputant-Cse/Semester-5/Java-Lab/Lab-Report/Lab2/Lab-code/Lab_2
$ cd d:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2 ; /usr/bin/env C:\Program Files\Java\jdk-1.8\bin\java.exe
-cp D:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2\bin Switch_Vowel
Enter Your alphabet
h
h is a Consonant.

Ararat@DESKTOP-TRCUG3D KINGMA4 /d/ararat-dev/Deputant-Cse/Semester-5/Java-Lab/Lab-Report/Lab2/Lab-code/Lab_2
$ cd d:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2 ; /usr/bin/env C:\Program Files\Java\jdk-1.8\bin\java.exe
-cp D:\ararat-dev\Deputant-Cse\Semester-5\Java-Lab\Lab-Report\Lab2\Lab-code\Lab_2\bin Switch_Vowel
Enter Your alphabet
i
i is a vowel

```