

Experiment Number: 03**Date: 29.01.2026****THEERAN.P****24BCS298**

Control Statements in Java

Aim:

To understand and implement decision-making and looping control statements in Java.

PRE LAB EXERCISE

QUESTIONS

- List different control statements in Java.
 - Control statements control the flow of execution in a program.
 - They include decision-making, looping, and branching statements.
- Difference between for, while, and do-while loops.
 - For and while check the condition before execution, while do-while checks after execution.
 - Do-while executes at least once, even if the condition is false.
- What is the use of break and continue?
 - Break is used to exit a loop or switch statement immediately.
 - Continue skips the current iteration and moves to the next iteration.

IN LAB EXERCISE

Objective:

To implement if-else and looping statements.

INPUT STATEMENT:

SCANNER CLASS

- The Scanner class in Java is used to read input from the user through the keyboard. It is available in the package java.util.
- The Scanner object reads different types of input such as integer, float, double, and string and stores them in variables.
- To use the Scanner class, it must be imported before using it in the program.

SYNTAX:

- `Scanner sc = new Scanner(System.in);`

Commonly Used Scanner Methods:

- `nextInt()` – reads an integer value

- nextFloat() – reads a float value
- nextDouble() – reads a double value
- next() – reads a single word
- nextLine() – reads a complete line of text

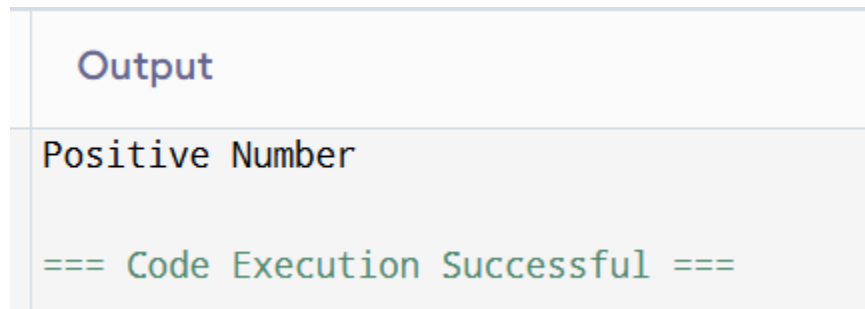
PROGRAMS:

Program 1: Check Whether a Number is Positive

```
public static void main(String[] args) {  
    int n = 5;  
    if (n > 0) {  
        System.out.println("Positive Number");  
    }  
}
```

Output:

Positive Number



Program 2: Check Whether a Number is Even or Odd

```
class EvenOdd {  
    public static void main(String[] args) {  
        int n = 6;  
        if (n % 2 == 0)
```

```
System.out.println("Even Number");  
else  
System.out.println("Odd Number");  
}  
}
```

Output:

Even Number

Output

Even Number

=== Code Execution Successful ===

Program 3: Find Largest of Two Numbers

```
class LargestTwo {  
    public static void main(String[] args) {  
        int a = 10, b = 20;  
        if (a > b)  
            System.out.println("A is largest");  
        else  
            System.out.println("B is largest");  
        }  
    }
```

Output:

B is largest

Output

B is largest

=== Code Execution Successful ===

Program 4: Grade Calculation

```
class Grade {  
    public static void main(String[] args) {  
        int marks = 75;  
        if (marks >= 90)  
            System.out.println("Grade A");  
        else if (marks >= 75)  
            System.out.println("Grade B");  
        else if (marks >= 50)  
            System.out.println("Grade C");  
        else  
            System.out.println("Fail");  
    }  
}
```

Output:

Grade B

Output

Grade B

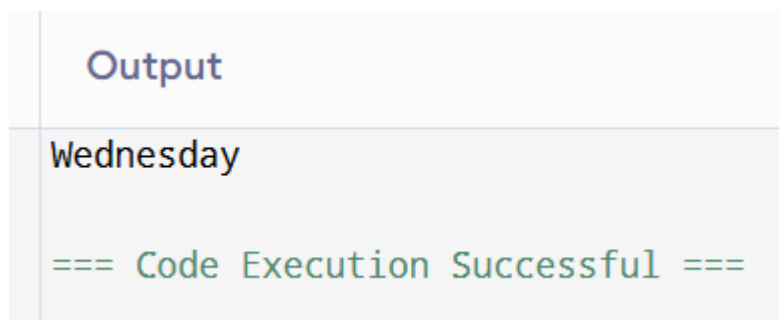
=== Code Execution Successful ===

Program 5: Day of the Week

```
class DaySwitch {  
    public static void main(String[] args) {  
        int day = 3;  
        switch (day) {  
            case 1: System.out.println("Monday"); break;  
            case 2: System.out.println("Tuesday"); break;  
            case 3: System.out.println("Wednesday"); break;  
            case 4: System.out.println("Thursday"); break;  
            case 5: System.out.println("Friday"); break;  
            default: System.out.println("Invalid Day");  
        }  
    }  
}
```

Output:

Wednesday

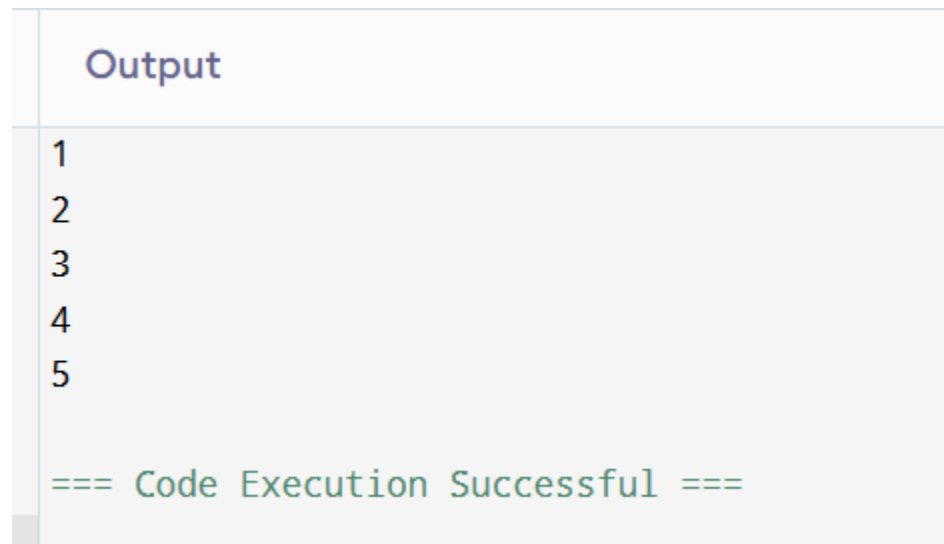
**Program 6: Print Numbers from 1 to 5**

```
class ForLoop {
```

```
public static void main(String[] args) {  
    for (int i = 1; i <= 5; i++) {  
        System.out.println(i);  
    }  
}
```

Output:

1
2
3
4
5

**Program 7: Print Numbers from 1 to 5**

```
class WhileLoop {  
    public static void main(String[] args) {  
        int i = 1;  
        while (i <= 5) {  
            System.out.println(i);  
        }  
    }  
}
```

```
i++;  
}  
}  
}
```

Output:

1
2
3
4
5

Output	
1	
2	
3	
4	
5	
=== Code Execution Successful ===	

Program 8: Print Numbers from 1 to 5

```
class DoWhileLoop {  
    public static void main(String[] args) {  
        int i = 1;  
        do {  
            System.out.println(i);  
            i++;  
        } while (i <= 5);  
    }  
}
```

```
}  
}
```

Output:

```
1  
2  
3  
4  
5
```



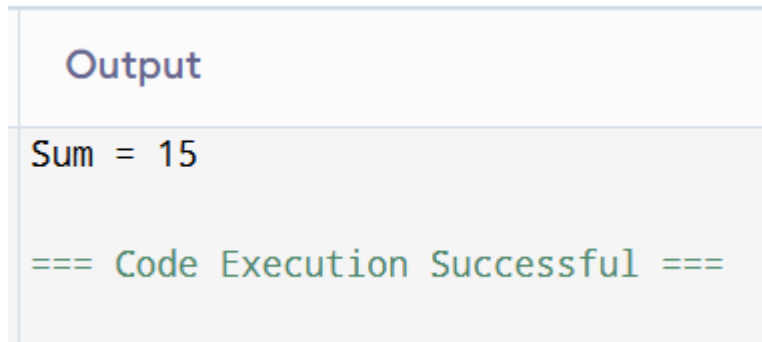
```
1  
2  
3  
4  
5  
  
=== Code Execution Successful ===
```

Program 9: Sum of First 5 Natural Numbers

```
class SumNumbers {  
    public static void main(String[] args) {  
        int sum = 0;  
        for (int i = 1; i <= 5; i++) {  
            sum = sum + i;  
        }  
        System.out.println("Sum = " + sum);  
    }  
}
```

Output:

Sum = 15



```
Output
Sum = 15
=== Code Execution Successful ===
```

Program 10: Multiplication Table of a Number

```
class MultiplicationTable {
    public static void main(String[] args) {
        int n = 5;
        for (int i = 1; i <= 10; i++) {
            System.out.println(n + " x " + i + " = " + (n * i));
        }
    }
}
```

Output:

```
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

Output

```
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

```
=== Code Execution Successful ===
```

POST LAB EXERCISE

- What is the use of if statement?
 - The if statement is used to test a condition.
 - If the condition is true, the specified block of code is executed.
- Difference between if-else and else-if ladder.
 - If-else is used to choose between two conditions.
 - Else-if ladder is used to check multiple conditions sequentially.
- Why is switch statement used?
 - The switch statement is used to execute one block among many choices.
 - It is mainly used as an alternative to multiple if-else statements.
- Difference between for, while, and do-while loops.
 - for and while check the condition before execution.
 - do-while checks the condition after execution.
- Which loop executes at least once?

The do-while loop executes at least once. Because the condition is checked after the loop body.

Result:

Thus the different control statements were executed successfully with expected output.

ASSESSMENT

Description	Max Marks	Marks Awarded
Pre Lab Exercise	5	
In Lab Exercise	10	
Post Lab Exercise	5	
Viva	10	
Total	30	
Faculty Signature		