

## Day 5 – Control Statements in Java

### Objective:

To understand and implement decision-making and looping control statements in Java to manage the flow of program execution.

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### Content:

Today, I learned about **control statements**, which determine the order in which instructions are executed in a program. These statements help in making decisions, repeating tasks, and controlling the flow of logic.

#### 1. Decision-Making Statements

Used to execute specific blocks of code based on conditions.

- **if statement** – executes a block if the condition is true.
- **if-else statement** – provides alternative execution paths.
- **nested if statement** – allows multiple conditions.
- **switch statement** – selects one option from multiple cases.

### Example:

```
int marks = 75;
if (marks >= 50)
    System.out.println("Pass");
else
    System.out.println("Fail");
```

### Switch Example:

```
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;  
    default: System.out.println("Invalid day");  
}
```

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## 2. Looping Statements

Used to execute a block of code repeatedly until a condition becomes false.

- **for loop** – executes a fixed number of times.
- **while loop** – executes while a condition remains true.
- **do-while loop** – executes at least once before checking the condition.
- **Enhanced for loop** – used for arrays and collections.

**Example:**

```
for (int i = 1; i <= 5; i++) {  
    System.out.println("Count: " + i);  
}
```

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## 3. Jump Statements

Used to control the normal flow of loops.

- **break** – exits the loop or switch.
  - **continue** – skips the current iteration.
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**Learning Outcome:**

Understood how to control program flow using decision-making and looping statements.

Practiced writing programs using if-else, switch, for, while, and do-while loops.

Gained confidence in applying logical conditions and repetitive execution in Java programs.