ELSE-IF VS SWITCH CASE

Difference between Else-If Ladder and Switch Case Statements

Abstract

Though both else-if ladder and switch case statements are used to execute a block of statement at a given point of time what makes them differ from each other and what approach is appreciable over the other? What are the differences and advantages when both the conditional control constructs are compared to each other…

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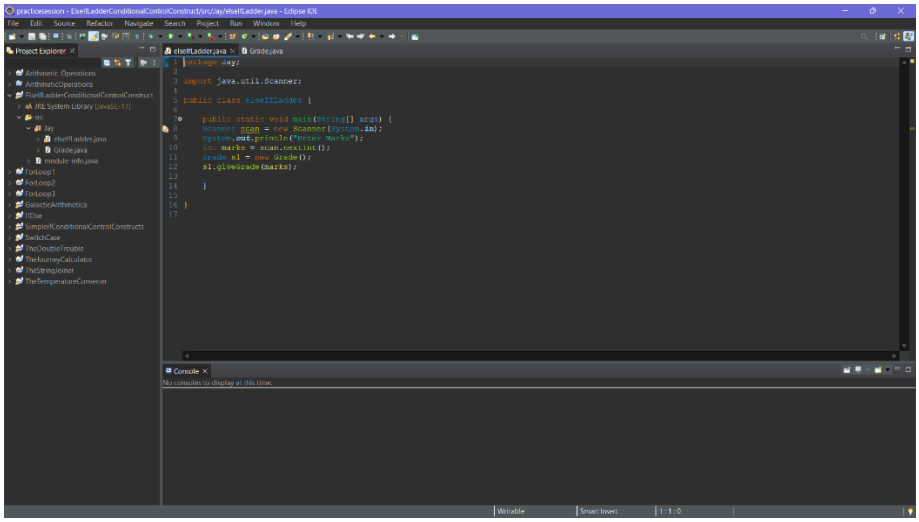
Else-if/If-else Ladder

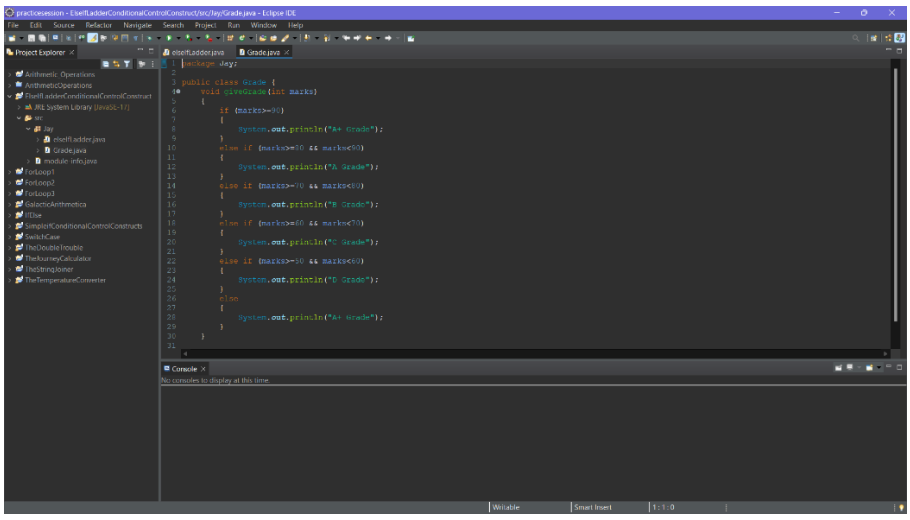
When we have multiple blocks of statements out of which only one block is to be executed at a given point of time, we make the use of Else-if/If-else ladder.

Making use of else-if ladder we give the control the ability to go through each block of statement and compare the condition with the provided input.



```
package Jay;

import java.util.Scanner;

public class elseIfLadder {

    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter Marks");
        int marks = scan.nextInt();
        Grade s1 = new Grade();
        s1.giveGrade(marks);

        }
}
```

- Code for creating the object using the name of the class in which the if-else conditional control construct is present.



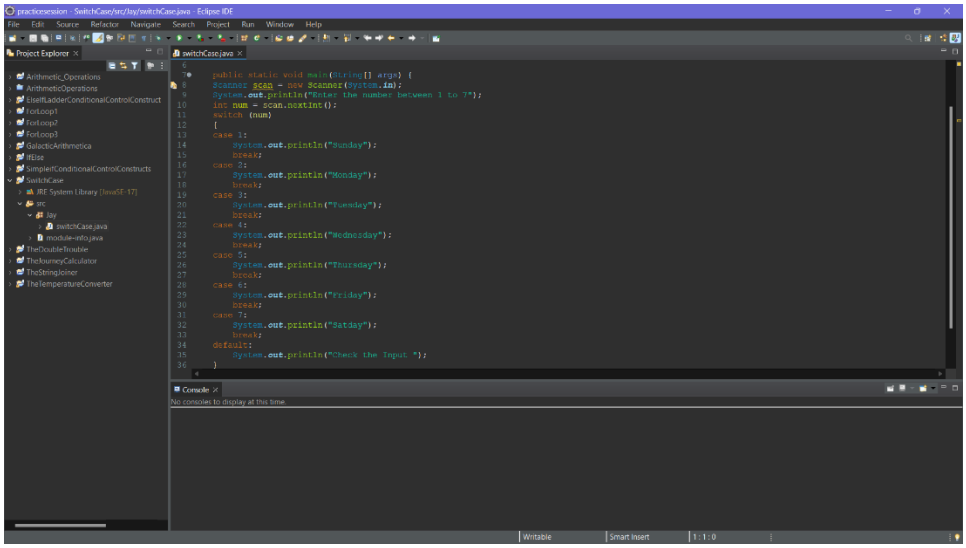
```
public class Grade {
    void giveGrade(int marks)
    {
        if (marks>=90)
        {
            System.out.println("A+ Grade");
        }
        else if (marks>=80 && marks<90)
        {
            System.out.println("A Grade");
        }
        else if (marks>=70 && marks<80)
        {
            System.out.println("B Grade");
        }
        else if (marks>=60 && marks<70)
        {
            System.out.println("C Grade");
        }
        else if (marks>=50 && marks<60)
        {
            System.out.println("D Grade");
        }
        else
        {
            System.out.println("A+ Grade");
        }
    }
```

- Class in which the if-else condition is written

Switch case

When we have multiple options to choose out of which one block/option should be executed at a given point of time, we go for switch case statements.

Switch case directly shifts the control to the case where the condition is matching the given input rather than going through each and every block of statement.



- Code for Switch case statement

In order to execute the switch case statement, we have to use “break” statement after each and every case in order to control the flow of the program else all the output statements following the satisfied condition will be printed on to the console.

Differences Between Else-If ladder and the Switch Case Statement

1. The control:

In else if ladder, the control runs through the every else if statement until it arrives at the true value of the statement or until it comes to the end of the else if ladder.

In switch case, the control directly shifts and arrives at the case which satisfies the condition with the given input.

2. Working:

Else if ladder statement works on the basis of true false (zero/non-zero) basis.

Switch case statement work on the basis of equality operator.

3. Use of Break Statement:

In switch, the use of break statement is mandatory and very important.

In else if ladder, the use of break statement is not very essential.

4. Variable Data:

Integer is the only variable data type that can be in expression of switch.

Either integer or character is the variable data type used in the expression of else if ladder.

5. Processing Of Codes:

In the case of else if ladder, the code needs to be processed in the order determined by the programmer.

In switch case, it is possible to optimize the switch statement, because of their efficiency. Each case in switch statement does not depend on the previous one.

6. Flexibility:

Else if statement is not flexible because it does not give room for testing of a single expression against a list of discrete values.

Switch case statement is flexible because it gives room for testing of a single expression against a list of discrete values.

7. Usage:

Else if ladder is used when there is multiple conditions are to be tested.

Switch case is used when there is only one condition and multiple values of the same are to be tested.

8. Values:

Values in if-else are based on constraint.

Values in switch case are based on user choice.

If-else	Switch Case
In else if ladder, the control runs through the every else if statement until it arrives at the true value of the statement or until it comes to the end of the else if ladder.	In switch case, the control directly shifts and arrives at the case which satisfies the condition with the given input.
Else if ladder statement works on the basis of true false (zero/non-zero) basis.	Switch case statement work on the basis of equality operator.
In else if ladder, the use of break statement is not very essential.	In switch, the use of break statement is mandatory and very important.
Either integer or character is the variable data type used in the expression of else if ladder.	Integer is the only variable data type that can be in expression of switch.
In the case of else if ladder, the code needs to be processed in the order determined by the programmer.	In switch case, it is possible to optimize the switch statement, because of their efficiency. Each case in switch statement does not depend on the previous one.

Else if statement is not flexible because it does not give room for testing of a single expression against a list of discrete values.	Switch case statement is flexible because it gives room for testing of a single expression against a list of discrete values.
Else if ladder is used when there are multiple conditions are to be tested.	Switch case is used when there is only one condition and multiple values of the same are to be tested.
Values in if-else are based on constraint.	Values in switch case are based on user choice.