

Differences Else-if and Switch conditional control construct in java

Else-if is used when you have multiple possible outcomes and want to check conditions sequentially.

In the case of the 'switch' statement, one case after another will be executed until the **break** keyword is not found, or the default statement is executed.

If Else Ladder Vs. Switch Case Statement In Tabular Form

BASIS OF COMPARISON	ELSE IF LADDER	SWITCH CASE
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 else if ladder, the control directly switches to the case where the condition matches with input.
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.
Use of Break Statement	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.
Variable Data	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.
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.
Flexibility	Else if statement is not flexible because it does not give room for	Switch case statement is flexible because it gives room for testing

	testing of a single expression against a list of discrete values.	of a single expression against a list of discrete values.
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.
Values	Values are based on constraint.	Values are based on user choice.

- **Default Execution**

Example: switch

The screenshot shows an IDE with a Java file named `License.java` and a console window. The code defines a `main` method that uses a `Scanner` to read an integer from the user and then uses a `switch` statement to print the corresponding day of the week based on the input number (1-7). The console output shows the program running, prompting for a number, receiving the input '5', and printing 'THURSDAY'.

```

1 package elseif;
2
3 import java.util.Scanner;
4
5 public class License {
6
7     public static void main(String[] args) {
8         Scanner scan = new Scanner(System.in);
9         System.out.println("enter a number");
10        int num = scan.nextInt();
11        scan.close();
12        switch(num) {
13            case 1 :
14                System.out.println("SUNDAY");
15                break;
16            case 2:
17                System.out.println("MONDAY");
18                break;
19            case 3:
20                System.out.println("TUESDAY");
21                break;
22            case 4:
23                System.out.println("WEDNESDAY");
24                break;
25            case 5:
26                System.out.println("THURSDAY");
27                break;
28            case 6:
29                System.out.println("FRIDAY");
30                break;
31            case 7:
32                System.out.println("SATURDAY");
33                break;
34        }
35    }
36 }
37 }
38

```

```

<terminated> License [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Auc
enter a number
5
THURSDAY

```

Example : else-if

```
1 package elseif;
2 import java.util.Scanner;
3 public class License {
4     public static void main(String[] args) {
5         Scanner scan = new Scanner(System.in);
6         System.out.println("enter your income");
7         double income= scan.nextDouble();
8         System.out.println( calculateTax(income));
9     }
10    public static double calculateTax(double income)
11    {
12        double Tax;
13        if(income<=250000)
14        {
15            return Tax = 0;
16        }
17        }else if(income>=250000 && income<=500000 )
18        {
19            return Tax = (income-250000)*0.05 ;
20        }else if(income>=500000 && income <=1000000)
21        {
22            return Tax = (income-500000)*0.2 + 12500 ;
23        }else
24        {
25            return 0;
26        }
27    }
28 }
29 }
30 }
```

<terminated> License [Java Application]
enter your income
300000
2500.0