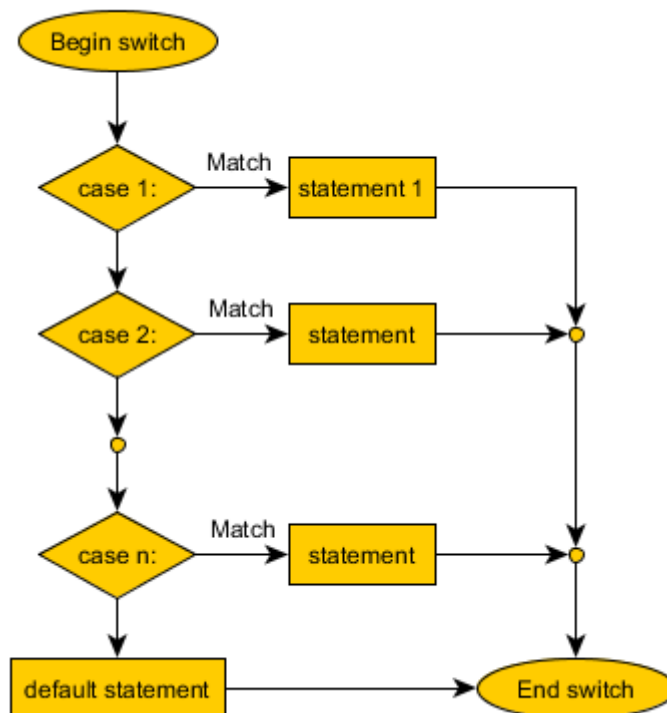


Switch Statement

A switch statement is an alternative of if statements which allows a variable to be tested for equality against a list of values. Each value is called a case, and the variable being switched on is checked for each switch case. It has the following syntax –

```
switch(expression){  
    case ONE :  
        statement(s);  
        break;  
    case TWO:  
        statement(s);  
        break;  
    .....  
  
    default :  
        statement(s);  
}
```

The data type of expression in a switch must be byte, char, short or int. When a match is found, the statements associated with that constant are executed.



Now let us see an example as;

```
class SwitchCaseDemo
{
    public static void main(String[] args)
    {
        int day = 5;
        switch(day) {
            case 0:
                System.out.println("Sunday");
                break;
            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;
            case 6:
                System.out.println("Saturday");
                break;
            default:
                System.out.println("Invalid");
                break;
        }
    }
}
```

Output

Friday

Research on your own for learning about nested switch statement.

Task to Do:

1. Using switch statement Write a JAVA program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:
Percentage $\geq 90\%$: Grade A
Percentage $\geq 80\%$: Grade B
Percentage $\geq 70\%$: Grade C
Percentage $\geq 60\%$: Grade D
Percentage $\geq 40\%$: Grade E
Percentage $< 40\%$: Grade F
2. JAVA Program to find the maximum between two numbers. Using the switch statement.
3. JAVA Program to find the maximum between three numbers. Using the switch statement.
4. JAVA Program to check whether a number is divisible by 5 and 11 or not. Using the switch statement.
5. JAVA Program to check whether a year is a leap year or not. Using switch statement
6. JAVA Program to check whether a character is an alphabet or not. Using the switch statement.
7. JAVA Program to take the value from the user as input any alphabet and check whether it is vowel or consonant. Using the switch statement.
8. JAVA Program to take the value from the user as input any character and check whether it is the alphabet, digit or special character. Using the switch statement.
9. JAVA Program to check whether a character is an uppercase or lowercase alphabet. Using the switch statement.
10. JAVA Program to take the value from the user as an input week number and print weekday by using the switch statement.
11. JAVA Program to take the value from the user as input the month number and print number of days in that month. Using switch statement
12. JAVA Program to count the total number of notes in a given amount. Using the switch statement.
13. JAVA Program to take the value from the user as input all sides of a triangle and check whether the triangle is valid or not. Using switch statement
14. JAVA Program to check whether the triangle is an equilateral, isosceles or scalene triangle. Using switch statement
15. JAVA Program to find all the roots of a quadratic equation. Using switch statement

16. JAVA Program to calculate profit or loss. Using switch statement.
17. Using switch statement JAVA Program to take the value from the user as input marks of five subjects Physics, Chemistry, Biology, Mathematics, and Computer. Calculate percentage and grade according to the following: Percentage $\geq 90\%$: Grade A, Percentage $\geq 80\%$: Grade B, Percentage $\geq 70\%$: Grade C, Percentage $\geq 60\%$: Grade D, Percentage $\geq 40\%$: Grade E, Percentage $< 40\%$: Grade F, Using switch statement.
18. JAVA Program to take the value from the user as input the basic salary of an employee and calculate its Gross salary according to the following: Basic Salary ≤ 10000 : HRA = 20%, DA = 80%.....Basic Salary ≤ 20000 : HRA = 25%, DA = 90%.....Basic Salary > 20000 : HRA = 30%, DA = 95%.
19. JAVA Program to take the value from the user as input electricity unit charges and calculate total electricity bill according to the given condition: For the first 50 units Rs. 0.50/unit.....For the next 100 units Rs. 0.75/unit.....For the next 100 units Rs. 1.20/unit.....For unit above 250 Rs. 1.50/unit.....An additional surcharge of 20% is added to the bill.....Using the switch statement.
20. Write a program that determines a student's grade. The program will read three types of scores (quiz, mid-term, and final scores) and determine the grade based on the following rules:if the average score $= 90\% \Rightarrow$ grade=A.....-if the average score $\geq 70\%$ and $< 90\% \Rightarrow$ grade=B.....-if the average score $\geq 50\%$ and $< 70\% \Rightarrow$ grade=C.....-if the average score $< 50\% \Rightarrow$ grade=F
21. Program to take the hours and minutes as input by the user and the show that whether it is AM or PM by using the switch statement.
22. Program to convert a positive number into negative number and negative number into a positive number using switch statement
23. Write a program to swap the values of two numbers if the values of both variables are not the same using a switch statement.
24. Program to Convert even number into its upper nearest odd number Switch Statement.