Conditions

If-else Condition

The if block is used to specify the code to be executed if the condition specified in if is true, the else block is executed otherwise.

Syntax

```
if (condition) {

  // block of code to be executed if the condition is true

} else {

  // block of code to be executed if the condition is false

}
```

Check the age if greater than 18 print adult else not adult

```
package if_else_Condition;

import java.util.Scanner;
public class CheckAge {
    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        System.out.println("enter an age: ");
        int x = sc.nextInt();

        if (x >= 18) {
            System.out.println("adult");
        }
        else{
            System.out.println("not adult");
        }
    }
}
```

Compare the number (a and b) find the greater number

```
package if_else_Condition;

import java.util.Scanner;
public class Compare {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter num 1: ");
        int num1 = sc.nextInt();
        System.out.print("enter num 2: ");
        int num2 = sc.nextInt();

        if(num1==num2) {
            System.out.println("both are equal ");
        }
        else if(num1>num2) {
            System.out.println("num1 is greater than num2");
        }
        else {
            System.out.println("num2 is greater than num1");
        }
    }

}
```

find the even and odd number

```
public class Compare {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter num 1: ");
        int num1 = sc.nextInt();
        System.out.print("enter num 2: ");
        int num2 = sc.nextInt();

        if(num1==num2) {
            System.out.println("both are equal ");
        }
        else if(num1>num2) {
            System.out.println("num1 is greater than num2");
        }
        else {
            System.out.println("num2 is greater than num1");
        }
    }

}
```

switch using if-else condition

```java
package if_else_Condition;

import java.util.Scanner;

public class Switch {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter a number from 1 - 3 : ");
        int button = sc.nextInt();

        if (button==1) {
            System.out.println("hello");
        }
        else if (button==2) {
            System.out.println("konichiwa");
        }
        else if (button==3) {
            System.out.println("namaste");
        }
        else {
            System.out.println("invalid button");
        }
    }
}
```

CaseCheck

```java
import java.util.Scanner;

public class CaseCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("enter anything");
        char c = sc.next().charAt(0);
        String ch = sc.next();
        int ans = ch.charAt(0);

        if (ans >= 'a' && ans <= 'z') {
            System.out.println("lower case");
        }

        else {
            System.out.println("upper case");
        }

    }
}
```

calculator

```java
import java.util.Scanner;
public class Calculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("enter a operator: ");
        char op = sc.next().trim().charAt(0);
        int ans = 0;

        while(true) {
            if (op == '+' || op == '-' || op == '*' || op == '/') {
                System.out.println("enter a two no ");
                int a = sc.nextInt();
                int b = sc.nextInt();

                if (op == '+') {
                    ans = a + b;
                }
                if (op == '-') {
                    ans = a - b;
                }
                if (op == '*') {
                    ans = a * b;
                }
                if (op == '/') {
                    ans = a / b;
                }
            } else if (op == 'X' || op == 'x') {
                break;

            } else {
                System.out.println("invalid operation");
            }

            System.out.println(ans);
        }
    }
}
```

Short Hand Condition

```java
import java.util.Scanner;

public class Condition {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter age: ");
        int age = sc.nextInt();
        String result = (age>=18)? "adult": "not adult";
        System.out.println(result);

        System.out.println("enter number: ");
        int num = sc.nextInt();

        String ans = (num%2==0)? "even" : "odd";
        System.out.println(ans);
    }
}
```

Switch case:

Switch case statements is a substitution for long if statements that compare a variable to multiple values. After a match is found, it executes the corresponding code of that value case.

Syntax

```
switch(expression) {
  case x:
    // code block
    break;
  case y:
    // code block
    break;
  default:
    // code block
}
```

Calculator:

```
public class Calculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("enter x: ");
        int x = sc.nextInt();
        System.out.print("enter y: ");
        int y = sc.nextInt();
        System.out.print("for addition enter 1\nfor substraction enter 2\nfor multiplication
enter 3\nfor division enter 4\n");

        System.out.print("enter a operation: ");
        int operation = sc.nextInt();

        switch (operation) {
            case 1:
                System.out.println("the answer is: "+x+y);
                break;
            case 2:
                System.out.println("the answer is: "+(x-y));
                break;
            case 3:
                System.out.println("the answer is: "+(x*y));
                break;
            case 4:
                System.out.println("the answer is: "+(x/y));
                break;
            default:
                System.out.println("enter a valid operation");
        }
    }
}
```

enhanced switch

```
switch (operation) {
    case 1 -> System.out.println("the answer is: " + x + y);
    case 2 -> System.out.println("the answer is: " + (x - y));
    case 3 -> System.out.println("the answer is: " + (x * y));
    case 4 -> System.out.println("the answer is: " + (x / y));
    default -> System.out.println("enter a valid operation");
}
```

Months:

```
import java.util.Scanner;

public class Months {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter month: ");
        String month = sc.nextLine();

        switch(month) {
            case "January" :
                System.out.println("1");
                break;
            case "February" :
                System.out.println("2");
                break;
            case "march" :
                System.out.println("3");
                break;
            case "April" :
                System.out.println("4");
                break;
            case "May" :
                System.out.println("5");
                break;
            case "June" :
                System.out.println("6");
                break;
            case "July" :
                System.out.println("7");
                break;
            case "August" :
                System.out.println("8");
                break;
            case "September" :
                System.out.println("9");
                break;
            case "Octomber" :
                System.out.println("10");
                break;
            case "November" :
                System.out.println("11");
                break;
            case "December" :
                System.out.println("12");
                break;
            default:
                System.out.println("invalid month");
        }
    }
}
```

enhanced switch

```
switch (month) {
    case "January" -> System.out.println("1");
    case "February" -> System.out.println("2");
    case "march" -> System.out.println("3");
    case "April" -> System.out.println("4");
    case "May" -> System.out.println("5");
    case "June" -> System.out.println("6");
    case "July" -> System.out.println("7");
    case "August" -> System.out.println("8");
    case "September" -> System.out.println("9");
    case "Octomber" -> System.out.println("10");
    case "November" -> System.out.println("11");
    case "December" -> System.out.println("12");
    default -> System.out.println("invalid month");
}
```

Condition

```
import java.util.Scanner;

public class Condition {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter a number: ");
        int x = sc.nextInt();
        switch (x) {
            case 1:
                System.out.println("hello");
                break;
            case 2:
                System.out.println("namaste");
                break;
            case 3:
                System.out.println("sasriyakal");
                break;
            case 4:
                System.out.println("khamma ghani");
                break;
            default:
                System.out.println("invalid condition");
        }


        switch(x){
            case 1 -> system.out.println(“Monday”);
            case 2 -> system.out.println(“Tuesday”);
            case 3 -> system.out.println(“Wednesday”);
            case 4 -> system.out.println(“Thursday”);
            case 5 -> system.out.println(“Friday”);
            case 6 -> system.out.println(“Saturday”);
            case 7 -> system.out.println(“Sunday”);
            default -> system.out.println(“enter a valid number”);
    }
}
```

weekends

```
mport java.util.Scanner;

public class Weekends {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("enter a number: ");
        int number = sc.nextInt();


        //enhanced switch
        switch (number) {
            case 1, 2, 3, 4, 5 -> System.out.println("weekdays");
            case 6, 7 -> System.out.println("weekends");
        }


        //if-else condition
        if (number == 1 || number == 2 || number == 3 || number == 4 ||
number == 5) {
            System.out.println("weekdays");
        } else if (number == 6 || number == 7) {
            System.out.println("weekends");
        }


        //simple switch
        switch (number) {
            case 1:
            case 2:
            case 3:
            case 4:
            case 5:
                System.out.println("weekdays");
                break;
            case 6:
            case 7:
                System.out.println("weekends");
                break;
        }
    }
}
```

Weekday

```
import java.util.Scanner;

public class Weekday {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("enter a number: ");
        int n = sc.nextInt();

        switch (n) {
            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;
            case 7 :
                System.out.println("Sunday");
                break;
            default:
                System.out.println("invalid");

        }
    }
}


//echanced switch
switch (n) {
    case 1 -> System.out.println("monday");
    case 2 -> System.out.println("Tuesday");
    case 3 -> System.out.println("Wednesday");
    case 4 -> System.out.println("Thursday");
    case 5 -> System.out.println("Friday");
    case 6 -> System.out.println("Saturday");
    case 7 -> System.out.println("Sunday");
    default -> System.out.println("invalid");
}
```