**Control statements-**

This is the most fundamental concepts required for java programmer. It allows smooth flow of execution of program. It controls the flow of program.

There are four types of control statements in java

1. If statements
2. If else statements
3. if-else-if ladder statement
4. Nested if statements
5. Switch statements
6. **If statements-**

If statement is true then if block is executed.

Syntax-

if (Condition) {

Statement 1;

}

Example-

**public** **class** Arithmatic {

**public** **static** **void** main(String[] args) {

**int** a = 10;

**if** (a > 50) {

System.***out***.println("a is greater.");

}

}

}

1. If else statements

If statement is true then if block is executed, if statement is false then else block is executed.

Syntax

if (condition) {

Statement 1;

}

else {

Statement 2;

}

**public** **class** Arithmatic {

**public** **static** **void** main(String[] args) {

**int** a = 10;

**if** (a > 50) {

System.***out***.println("a is greater.");

}

**else** {

System.***out***.println("a is smaller.");

}

}

}

1. if-else-if ladder statement

The if-else-if ladder statement executes one condition from multiple statements.

Syntax-

if (Condition 1) {

//executed if condition 1 is true

}

else if (Condition 2) {

// executed if condition 2 is true

}

else if (Condition 3) {

// executed if condition 3 is true

}

else {

// executed if all condition false

}

//check condition step by step

**public** **class** Arithmatic {

**public** **static** **void** main(String[] args) {

**int** marks = 70;

**if** (marks >= 50 && marks < 60) {

System.***out***.println("D grade");

} **else** **if** (marks >= 60 && marks < 70) {

System.***out***.println("C grade");

} **else** **if** (marks >= 70 && marks < 80) {

System.***out***.println("B grade");

} **else** **if** (marks >= 80) {

System.***out***.println("A grade");

}**else** {

System.***out***.println("incorrect input");

}

}

}

1. Nested if statements

The nested if statement represents the if block within another if block. Here, the inner if block condition executes only when outer if block condition is true.

Syntax

if (Condition) {

if (Condition) {

}

}

**public** **class** Arithmatic {

**public** **static** **void** main(String[] args) {

**int** no = 75;

**if** (no >= 18) {

**if** (no > 50) {

System.***out***.println("No is greater than 50");

}

}

}

}

1. **Switch Statements-**

A switch statement in java is used to execute a single statement from multiple conditions. The switch statement can be used with short, byte, int, long, enum types, etc. Usage of break statement is made to terminate the statement sequence. It is optional to use this statement.

We can use string and int in switch statements.

Syntax

switch (expression) {

case 1:

Statement 1

break;

case 2:

Statement 2

break;

case 3:

Statement 3

break;

default:

default statement

Example-1

**public** **class** Arithmatic {

**public** **static** **void** main(String[] args) {

**int** number = 2;

**switch** (number) {

**case** 1:

System.***out***.println("this is 1 number");

**break**;

**case** 2:

System.***out***.println("this is 2 number");

**break**;

**case** 3:

System.***out***.println("this is 3 number");

**break**;

**default**:

System.***out***.println("Invalid input");

}

}

}

Output-

this is 2 number

Example-2

**public** **class** SwitchExample {

**public** **static** **void** main(String[] args) {

String month = "March";

**switch** (month) {

**case** "January":

System.***out***.println("this is January");

**break**;

**case** "February":

System.***out***.println("this is February");

**break**;

**case** "March":

System.***out***.println("this is March");

**break**;

**case** "April":

System.***out***.println("this is April");

**break**;

**case** "May":

System.***out***.println("this is May");

**break**;

**case** "June":

System.***out***.println("this is June");

**break**;

**case** "July":

System.***out***.println("this is July");

**break**;

**case** "August":

System.***out***.println("this is August");

**break**;

**case** "September":

System.***out***.println("this is September");

**break**;

**case** "October":

System.***out***.println("this is October");

**break**;

**case** "November":

System.***out***.println("this is November");

**break**;

**case** "December":

System.***out***.println("this is December");

**break**;

**default**:

System.***out***.println("this is Invalid choice...");

}

}

}

Output

this is March

Example-3

**public** **class** SwitchExample {

**public** **static** **void** main(String[] args) {

Test test = **new** Test();

String operation = "Multiplication";

**switch** (operation) {

**case** "Addition":

**int** add = test.getAddition(10, 20);

System.***out***.println("Addition is>>" + add);

**break**;

**case** "Substraction":

**int** sub = test.getSubstraction(10, 20);

System.***out***.println("Substraction is>>" + sub);

**break**;

**case** "Multiplication":

**int** mul = test.getMultiplication(10, 20);

System.***out***.println("Multiplication is>>" + mul);

**break**;

**case** "Division":

**int** div = test.getDivision(10, 20);

System.***out***.println("Division is>>" + div);

**break**;

**default**:

System.***out***.println("Incorrect input, Please try again.");

}

}

}

**public** **class** Test {

**public** **int** getAddition(**int** a, **int** b) {

**int** add = a + b;

**return** add;

}

**public** **int** getSubstraction(**int** a, **int** b) {

**int** sub = a - b;

**return** sub;

}

**public** **int** getMultiplication(**int** a, **int** b) {

**int** mul = a \* b;

**return** mul;

}

**public** **int** getDivision(**int** a, **int** b) {

**int** div = a / b;

**return** div;

}

}

Output-

Multiplication is>>200