**Looping and Arrays:**

**Logical operators:**

**&&(AND)**

**||(OR)**

**! (NOT)**

**&&**

**True && true = true**

**True && false = false**

**False && true= false**

**False && false= false**

**||**

**True ||true = true**

**True || false = true**

**False ||true= true**

**False || false= false**

**! example:**

package com.org.conitionlogic;  
  
public class SwitchStatement {  
  
 public static void main(String[] args) {  
  
 double val1 = 100.0d;  
 double val2 = 0.0d;  
 double res = 0.0d;  
 char opCode = 'd';  
  
 switch (opCode) {  
 case 'a':  
 res = val1 + val2;  
 break;  
 case 's':  
 res = val1 - val2;  
 break;  
 case 'm':  
 res = val1 \* val2;  
 break;  
 case 'd':  
 if (val2 != 0) {  
 res = val1 / val2;  
 } else {  
 System.*out*.println("given number val2 is zero");  
 res = 0.0;  
 }  
 break;  
 default:  
 System.*out*.println("invalid input");  
 res = 0.0;  
 }  
 System.*out*.println(res);  
 }  
}

**&& example:**

package com.org.conitionlogic;  
  
public class LogicalOperators {  
 public static void main(String[] args) {  
 int a = 10;  
 int b = 20;  
 int c = 30;  
 if (a > b && a > c) {  
 System.*out*.println("a is bigger");  
 } else if (b > a && b > c) {  
 System.*out*.println("b is bigger");  
 } else if (c > a && c > b) {  
 System.*out*.println("c is bigger");  
 }  
 }  
}

**Logical OR:**

package com.org.conitionlogic;  
  
public class LogicalOr2 {  
  
 public static void main(String[] args) {  
 int num = 0;  
  
  
 //if(false||false)  
 //if(false)  
 if (num > 0 || num < 0) {  
 System.*out*.println("positive number or negative number");  
 } else {  
 System.*out*.println("Zero");  
 }  
  
 }  
  
  
}

**Looping and Arrays:**

Overview:

While loop basic looping

Do-while loop looping with deferred condition check

For loop looping with simplified notation for common use case

Arrays

For each loop

Loops

Repeatedly execute a statement as long the provided condition is true.

While loop

Condition checked at loop start:

while(condition)

statement;

factorial

4

4\*3\*2\*1=24

package com.org.loops;  
  
public class WhileloopExample {  
  
  
 /\*  
  
  
 logic for factorial is  
 example:  
  
 10  
 7\*6\*5\*4\*3\*2\*1= 5040  
 \*/  
 public static void main(String[] args) {  
 int someValue = 10; //3 //2 //1  
 int factorial = 1;//1\*4= 4//4\*3=12// 12\*2=24  
//while(1>1)  
 //while(false)  
  
 while (someValue > 1) {  
 factorial = factorial \* someValue;  
 someValue--;  
 }  
 System.*out*.println(factorial);  
 }  
}

package com.org.loops;  
  
public class Whileloop2 {  
  
 public static void main(String[] args) {  
  
 int i = 1; //2 //3  
  
 //while(3<=5)  
 //while(true)  
 while (i <= 5) {  
 System.*out*.println(i);  
 i++;  
 }  
 }  
}

Do while loop:

Condition checked at loop end

Do

Statement

while(condition)

package com.org.loops;  
  
public class Dowhile {  
  
 public static void main(String[] args) {  
 int iVal = 6;   
 do{  
 System.*out*.print(iVal);  
 System.*out*.print(" \* 2 =");  
 iVal=iVal\*2;  
 System.*out*.println(iVal);  
 }  
 while(iVal<100);  
 }  
}

For loop:

For (inilize;condition )

Statement

Loop start condition check

package com.org.loops;  
  
public class Forloop {  
  
 public static void main(String[] args) {  
  
 for (int i = 0; i <= 8; i++) {  
 System.*out*.println("i is "+i);  
 }  
 }  
}

Arrays:

Provide an ordered collection of elements.

Each element accessed via an index

**Index range from 0 to number-of-elements-1**

package com.org.Arrays;  
  
public class IntArra {  
 public static void main(String[] args) {  
 int[] theVals = new int[4];  
 theVals[0] = 10;  
 theVals[1] = 20;  
 theVals[2] = 30;  
 theVals[3] = 40;  
  
 int res = 0;  
  
 for (int i = 0; i < theVals.length; i++) {  
 res = res + theVals[i];  
 }  
 System.*out*.println(res);  
 }  
}

package com.org.conitionlogic;  
  
public class SwitchStatementArray {  
  
 public static void main(String[] args) {  
  
 double[] leftvals = {100.0d, 25.0d, 22.0d, 11.0d};  
 double[] rightvals = {50.0d, 92.0d, 17.0d, 3.0d};  
 char[] opscode = {'d', 'a', 's', 'm'};  
 double res[] = new double[4];  
  
 for (int i = 0; i < opscode.length; i++) {  
  
 switch (opscode[i]) {  
 case 'a':  
 res[i] = leftvals[i] + rightvals[i];  
 break;  
 case 's':  
 res[i] = leftvals[i] - rightvals[i];  
 break;  
 case 'm':  
 res[i] = leftvals[i] \* rightvals[i];  
 break;  
 case 'd':  
 if (rightvals[i] != 0) {  
 res[i] = leftvals[i] / rightvals[i];  
 } else {  
 System.*out*.println("given number val2 is zero");  
 }  
 break;  
 default:  
 System.*out*.println("invalid input");  
 res[i] = 0.0d;  
 }  
 }  
 System.*out*.println(res);  
 for (int i = 0; i < res.length; i++) {  
 System.*out*.println(res[i]);  
 }  
 }  
}