**BREAK & CONTINUE STATEMENT IN JAVA**

**break Statement:**

* The java ***break*** statement is used to break loop or switch statement.
* It breaks the current flow of the program in specified condition.
* In case of inner loop, it breaks only inner loop.
* The break statement stops the execution of the remaining statements within the body of the loop.

**Syntax**

jump-statement;

break;

**Example: whilebreakExample**

public class BreakWhileExample {  
 public static void main(String[] args){  
 int i = 1;  
 while (i<15){  
 if (i==8){  
 i++;  
 break;  
 }  
 System.out.println(i);  
 i++;  
 }  
 }  
}

**Example: dowhilebreakExample**

public class DoWhileBreakExample {  
 public static void main(String[] args){  
 int i = 1;  
 do {  
 if (i==10){  
 i++;  
 //System.out.println(i);  
 break;  
 }  
 System.out.println(i);  
 i++;  
 }while (i<=15);  
 }  
}

**Example: forbreakExample**

public class ForBreakExample {  
 public static void main(String[] args){  
 for (int i = 1; i<=20; i++){  
 if (i==12){  
 break;  
 }  
 System.out.println(i);  
 }  
 }  
}

**continue Statement:**

* The ***continue*** statement skips all the statements following the continue statement and moves the control back to the loop statement.
* The java continue statement is used to continue the loop.
* It continues the current flow of the program and skips the remaining code at the specified condition.
* In case of an inner loop, it continues the inner loop only.

**Note:**

* The continue statement is used in loop control structure when you need to jump to the next iteration of the loop immediately.
* It can be used with for loop or while loop.

**Syntax**

jump-statement;

continue;

**Example: whilecontinueExample**

public class ContinueWhileExample {  
 public static void main(String[] args){  
 int i = 1;  
 while (i<15){  
 if (i==8){  
 i++;  
 continue;  
 }  
 System.out.println(i);  
 i++;  
 }  
 }  
}

**Example: dowhilecontinueExample**

public class DoWhileContinueExample {  
 public static void main(String[] args){  
 int i = 1;  
 do {  
 if (i==10){  
 i++;  
 //System.out.println(i);  
 continue;  
 }  
 System.out.println(i);  
 i++;  
 }while (i<=15);  
 }  
}

**Example: forcontinueExample**

public class ForContinueExample {  
 public static void main(String[] args){  
 for (int i = 1; i<=20; i++){  
 if (i==12){  
 continue;  
 }  
 System.out.println(i);  
 }  
 }  
}

**ARRAYS**

* An ***array*** is a collection of elements of a single datatype stored in adjacent memory locations.
* We can access array elements by specifying the name and the subscript number of the array.
* The subscript number specifies the position of an element within the array.
* It is also called the ***index*** of the element.
* The first element of array has an index ,0, and last element has an index one less than the size(n-1) of the array.

**Creating Arrays:**

**Types of arrays:**

* One-dimensional array
* Multidimensional array

**One-dimensional Array:**

* A one-dimensional array is a collection of elements with a single index value.
* A one-dimensional array can have multiple columns but one row.

**The creation of one-dimensional array involves 2 steps:**

* Declare an array.
* Assign values to the array.

**Declaring an array:**

An array needs to be declared before it can used in a program.

**Syntax:**

arraytype[] arrayname = new arraytype[size];

* **arraytype**🡪specifies the type of element to be stored in array.
* **arrayname**🡪specifies the name of the array.
* **[size]**🡪specifies the size of the array.

**Sample format:**

String words[] = new String[3];

* Array of String, ***words***, which can store three elements with the index of elements ranging from ***0 to 2***.

**Assigning values to the array**

We can assign values to each element of the array by using the index number of element.

**Sample format:**

words[0] = “SSD”;

* We can assign values to the array at the time of declaration.
* For this it is not required to specify the size of the array.

String words[] = {“Mugilan”, “Sudesh”, “Vasanth”};

* Words is a one-dimensional array.
* The values, Mugilan, Sudesh, Vasanth, are stored in the array.

0th index 1st index 2nd index

|  |  |  |
| --- | --- | --- |
| Mugilan | Sudesh | Vasanth |

**Multidimensional Array:**

* An array having more than one dimension is called a multidimensional array.
* The commonly used multidimensional array is a two-dimensional array where we can have multiple rows and columns.

**The creation of two-dimensional array involves 2 steps:**

* Declare an array.
* Assign values to the array.

**Declaring an Array:**

**Syntax:**

arraytype[][] arrayname = new arraytype[rowsize][columnsize];

* **arraytype**🡪specifies the type of element to be stored in array.
* **arrayname**🡪specifies the name of the array.
* **rowsize🡪**specifies the number of rows.
* **columnsize🡪**specifies the number of columns.

**Sample format:**

String[][] words = new String[4][2];

**Assigning values to the array**

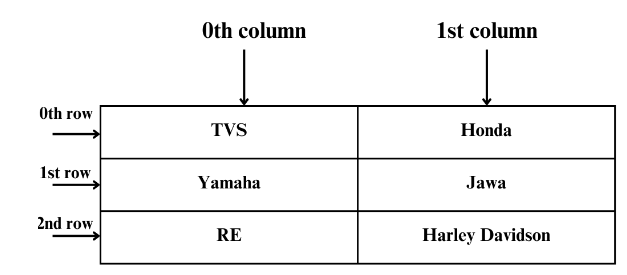
We can assign values to each element of the array by using the index number of the element.

**Sample format:**

words[0][0] = “TVS”;

words[0][1] = “Honda”;

* We can assign values to the array at the time of declaration.

String[][] words = new String[][] {{“TVS”, “Honda”}, {“Yamaha”, “Jawa”}, {“RE”, “Harley Davidson”}};

**Accessing Arrays:**

* One-dimensional array
* Two-dimensional array

**One-dimensional Array**

**Example: Access using index**

public class SingleDimensionArrayExample {  
 public static void main(String[] args){  
 String words[] = {"Mugilan", "Sudesh", "Vasanth"};  
 System.out.println(words[0]);  
   
 }  
}

**Example: Access with for loop of all elements with length**

public class SingleDimensionArrayExample1 {  
 public static void main(String[] args){  
 String words[] = {"Mugilan", "Sudesh", "Vasanth"};  
 for (int i = 0; i<words.length; i++){  
 System.out.println(words[i]);  
 }  
 }  
}

**Example: for-each loop to access all elements**

public class ForEachArrayExample {  
 public static void main(String[] args){  
 String[] words = {"RAM", "SSD", "GraphicsCard"};  
 System.out.println("Elements stored in array are: ");  
 for (String i:words)  
 {  
 System.out.println(i);  
 }  
 }  
}

**Two-dimensional Array**

**Example: Access using index**

public class TwoDimensionalArrayExample {  
 public static void main(String[] args){  
 String[][] words = new String[][] {{"HTML","CSS"}, {"Bootstrap","Js"}, {"Java","Python"},{"Mysql","MongoDB"}};  
 System.out.println(words[0][0]);  
 }  
}

**Example: Access elements with nested for loop**

public class TwoDimensionalArrayExample1 {  
 public static void main(String[] args){  
 String[][] words = new String[][] {{"HTML","CSS"}, {"Bootstrap","Js"}, {"Java","Python"},{"Mysql","MongoDB"}};  
 System.out.println("Elements Stored in array are: ");  
 for (int i = 0; i<2; i++){  
 for (int j = 0; j<2; j++){  
 System.out.print(words[i][j]);  
 }  
 }  
 }  
}

**Example: Access with nested for loop of all elements with length**

public class TwoDimenNestedForLength {  
 public static void main(String[] args){  
 int[][] a = {{1,3},{4,6},{7,9}};  
 for (int i = 0; i<a.length; i++){  
 for (int j = 0; j<a[i].length; j++){  
 System.out.print(a[i][j]);  
 }  
 System.out.println();  
 }  
 }  
}

**Example: for-each loop to access all elements**

public class ForEachTwoDimesionalExample {  
 public static void main(String[] args){  
 String[][] words = new String[][]{{"TVS","Hero"},{"Honda","Yamaha"},{"RE","KTM"},{"Jawa","HarleyDavidson"} };  
 System.out.println("Bike types are: ");  
 for (String[] i : words)  
 {  
 for (String j : i)  
 {  
 System.out.println(j);  
 }  
 //System.out.println(i);  
 }  
 }  
}

**Example: Initialize outside main method access using object**

public class ArrayNewExample {  
 int[] sno = {1,2,3,4,5};  
 String[] name= {"Akshaya", "Dhuvaragan", "Haroon", "Indu", "Kamalesh"};  
 int[] regno = {112001, 112002, 112003, 112004, 112005};  
 String[] subject = {"HTML", "CSS", "Bootstrap", "React", "Express"};  
 public static void main(String[] args){  
 ArrayNewExample ane = new ArrayNewExample();  
 System.out.println(ane.sno[4]);  
 System.out.println(ane.sno[2]);  
 System.out.println(ane.sno[1]);  
 System.out.println(ane.sno[0]);  
 System.out.println(ane.sno[3]);  
 System.out.println(ane.name[4]);  
 System.out.println(ane.regno[4]);  
 System.out.println(ane.subject[4]);  
 }  
}

**Example:**

public class ArrayNewExample1 {  
 public static void main(String[] args){  
 String[] name = {"Mugilan", "Sudesh", "Vasanth", "Dharneesh", "Dhileeban", "Aravind", "Arun"};  
 int[] id = {100, 122, 134, 145, 156, 167, 178};  
 System.out.println("Username: "+name[0]+" "+"User id: "+id[0]);  
 System.out.println("User id: "+id[0]);  
 System.out.println("Username: "+name[6]+" "+"User id: "+id[6]);  
 System.out.println("Username: "+name[3]+" "+"User id: "+id[3]);  
 System.out.println(name.length);  
 System.out.println(id.length);  
 }  
}