
Loops in java :

* A loop in nothing but repetition of statement.
* In Java, We have 4 types of loop :
a) do-while loop
b) while loop
c) for loop
d) for-each loop

For-Each loop in Java :

* It is also known as Enhanced for Loop.
* It was introduced from JDK 1.5V
* Whenever we write for each loop then internally Java compiler generates OR converts this for each loop in ordinary for loop.
* It is mainly used to retrieve the values from the collection (array) one by one.

Example :


```
int []values = {23,90,78,45};
```



```
for(int value : values)
{
    System.out.println(value);
}
```



```
for(int i=0; i<values.length; i++)
{
    System.out.println(values[i]);
}
```


Note : values is an array variable which can hold multiple values, on the other hand value is an ordinary variable which can hold only one value at a time.

Ordinary for loop is generated by Java Compiler.

//WAP to fetch the value from array by using for each loop :


```
package com.ravi.loop;

public class ForEachDemo1
{
    public static void main(String[] args)
    {
        int []values = {12,89,11,90,45,67,12};

        for(int value : values)
        {
            System.out.println(value);
        }
    }
}
```


WAP to sort the array data in ascending order by using for each loop :
How to sort Array Data in Ascending Order :

* There is a predefined class called **Arrays** available in java.util package. It contains a static method called sort() which accepts integer array as a parameter.

```
public static void sort(int []arr)
```

* The sort() method will automatically sort the array in ascending order.

```
package com.ravi.loop;

import java.util.Arrays;

public class ForEachDemo2 {

    public static void main(String[] args)
    {
        int []values = {90, 56, 11, 78, 34};

        Arrays.sort(values);

        for(int value : values)
        {
            System.out.println(value);
        }
    }
}
```

How to sort String Array :

public static void sort(Object[] arr)

package com.ravi.loop;

import java.util.Arrays;

public class ForEachDemo3
{
 public static void main(String[] args)
 {
 String [] cities = {"Pune", "Hyderabad", "Kolkata", "Indore"};

 Arrays.sort(cities);

 for(String city : cities)
 {
 System.out.println(city);
 }
 }
}

Can we take heterogeneous types of data by using Array :

Yes, We can take heterogeneous types of data in array by using **Object array** concept.

package com.ravi.loop;

public class ForEachDemo4
{
 public static void main(String[] args)
 {
 Object []arr = {12, 89.90, 'G', true, "NIT"};

 for(Object x : arr)
 {
 System.out.println(x);
 }
 }
}

Note : We cannot perform sorting operation on heterogeneous types of data otherwise It will generate java.lang.ClassCastException.

What is BLC and ELC class in java ?

BLC :

* It stands for "Business Logic Class" in java. We should always write our business logic in the BLC class. It will never contain main method.
Example :
public class Calculator
{
 //We should write the Logic Here
}

ELC :

* It stands for "Executable Logic class". It will never contain any logic.
* It must contain main method so the execution of the program will start from ELC class.
Example :
public class Main
{
 public static void main(String [] args)
 {
 }
}

How many public classes we can write in a single .java file ?

* We can write only one public class for a single .java file. The public class must be our file name.