



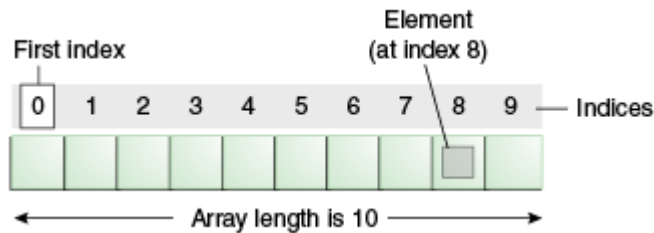
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FACULTY OF Engineering &
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Array

1. Array is an object which contains elements of a similar data type.
2. The elements of an array are stored in a contiguous memory location.
3. It is a data structure where we store similar elements.
4. We can store only a fixed set of elements in a Java array.



1. Array in Java is index-based, the first element of the array is stored at the 0th index
2. If there are n elements then the index of any element p is $(p-1)$ where $p \leq n$

Advantages

1. It makes the code optimized, we can retrieve or sort the data efficiently because of contiguous memory allocations.
2. We can access any data located at an index position directly.

Disadvantages

1. Array can store only the fixed size of elements in the array.
2. It doesn't grow dynamically y means at run time neither it shrinks

There are two types of array.

1. Single Dimensional Array
2. Multidimensional Array

Syntax to Declare an Array in Java

```
dataType[] arr;
```

(or)

```
dataType []arr;
```

(or)

```
dataType arr[];
```

All the above ways are correct

Instantiation of an Array in Java

```
ReferenceVariable=new datatype[size of array];
```

Example:

```
class test{  
public static void main(String args[])  
{  
    int arr[]=new int[3]; //declaration and instantiation of array arr  
arr[0]=10;//initialization  
arr[1]=20;  
arr[2]=30;  
//traversing array  
for(int i=0;i<a.length;i++)//length is the property of array  
System.out.println(a[i]);  
}}
```

Explanation

1. Here property length will give the total number of array elements which is 3 here. So loop will execute for 3 times
2. arr[i] will print the element at ith position