

Experiment No - 5

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Aim - Implement a program for array and types of array.

Resource required - Pentium IV, JDK 1.8, Notepad

Theory : An array is a collection of similar data type of elements which has contiguous memory location.

Java array is an object which contains elements of a similar data type. Additionally the elements of an array are stored in a contiguous memory location. It is a data structure where we store similar elements. We can store only a defined set of elements in a Java array.

Array in Java is index based. The first element of the array is stored at the 0th index. 2nd element is stored on 1st index and so on.

Type of Array in Java

1. Single Dimensional Array
2. Multi Dimensional Array

In Java array is an object of an dynamically generated class Java array inherits the object class and implement the as were in cloned at pointive value of.

Object in an array in Java like C++/C We can also create single dimensional array and multidimensional array in Java. It provides the features of ~~Java~~ anonymous array which is available in C/C++.

First Index.

0	1	2	3	4	5	6	7	8	9	10

Array length is 11.

One Dimensional array.

The general form of a One-dimensional array declaration is

type var-name;

or

type Java.name

An array declaration has two component the +ve type and -ve type declares the element type of the array. The element type determines the Array of int type. We can also create a array of other priorities data type like char,

// user defined primitive

float, double, etc - as used defined datatype data array will hold.

Multidimensional Array.

Multidimensional array are arrays of arrays with each element of the array holding the reference of other array these are also known as nested arrays. A multidimensional array is created by appending once set of square brackets per dimension.

Examples →

```
int intArray [][] = new int [10][20]; // 2D array  
an matrix
```

```
int intArray [][][] = new int [10][20][70]  
// a 3D array.
```

Advantages →

- Code optimization : It makes the code optimized we can retrieve or sort the data efficiently.
- Random access : We can get any data located at an index position.

called

→ Disadvantages.

Size limit : We can store only the fixed size of runtime in array. It doesn't grow its size of runtime. To solve this problem collection from work is used in Java which grows automatically.

Conclusion — Thus we have successfully implemented array and types of Array.

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