

1.What do you mean by an array ?

ANSWER:-

It refers to index collection of fixed number of homogeneous data elements.
Single variable holding multiple values which improves readability of the program.

2.How to create an array ?

ANSWER:-

Array declarations

1.Single dimensional Array

Declaration of array:-

- `int[] a;`//recommended as variable separated from type
- `int a[];`
- `int []a;`
- `int[6] a;`//compile time error as we cannot specify the size

Array construction:-

Every array in java is an object hence we create using a new operator.

Example code:-

```
int a[];  
a=new int[5];  
Similarly,  
int b[]=new int[67];
```

3.Can we change the size of an array at run time ?

ANSWER:-

No, the size of an array in Java is fixed and cannot be changed at runtime. Once an array is created with a specific size, it cannot be resized.

If you need to dynamically change the size of an array, you can use other data structures such as ArrayList or LinkedList, which can be dynamically resized. These data structures are implemented as classes in the Java Collections Framework, and they provide an efficient and flexible way to manage collections of elements.

4.Can you declare an array without assigning the size of an array ?

ANSWER:-

No, you cannot declare an array in Java without specifying its size. In Java, arrays are objects, and when you declare an array, you must specify the size of the array. The size of the array determines the number of elements that can be stored in the array.

5.What is the default value of the array ?

ANSWER:-

In Java, the default values of an array depend on the type of elements stored in the array.
For example:

For numeric data types ("int", "float", "double", etc.), the default value is 0.

For char type, the default value is '\u0000'.

For boolean type, the default value is false.

For reference types (Object, String, etc.), the default value is null.

6.What is a 1D array with an example ?

ANSWER:-

A 1D array, also known as a one-dimensional array, is a linear data structure that stores a collection of elements of the same type in contiguous memory locations. In Java, a 1D array is declared using square brackets ("[]") after the data type of the elements.

Here's an example of declaring and initializing a 1D array in Java:

```
int[] numbers = {1, 2, 3, 4, 5};
```

7.Write a program on 2D array ?

ANSWER:-

```
public class Main {  
    public static void main(String[] args) {  
        int[][] numbers = {{1, 2, 3}, {4, 5, 6}, {7, 8, 9}};  
  
        for (int i = 0; i < numbers.length; i++) {  
            for (int j = 0; j < numbers[i].length; j++) {  
                System.out.print(numbers[i][j] + " ");  
            }  
            System.out.println();  
        }  
    }  
}
```

Output:-

```
1 2 3  
4 5 6  
7 8 9
```