

Java Arrays

Topics : [JAVA](#)

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Arrays are used to store multiple values in a single variable instead of declaring separate variables for each value.

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 fixed set of elements in a Java array.

Syntax :

```
String[] fruits;
```

OR

```
String fruits[];
```

You can insert value in array as below,

```
String[] fruits = {"Apple", "Orange", "Banana", "Grapes"};
```

Types of Array in java

There are two types of array.

1. Single Dimensional Array
2. Multidimensional Array

Single Dimensional Array can be instantiated, defined and declared as below.

```
arrayVar=new datatype[size];
```

Example ,

```
int i[]=new int[3];//declaration and instantiation
i[0]=30;//initialization
i[1]=40;
i[2]=50;
```

Multidimensional Array can be defined and declared as below.

```
dataType[][] arrayVar;  
OR  
dataType [][]arrayVar;  
OR  
dataType arrayVar[][];  
OR  
dataType []arrayVar[];
```

Multidimensional Array can be instantiated as below.

```
dataType[][] arrayVar = new dataType[][];
```

Example,

```
int[][] arrayVar=new int[2][2];//2 row and 2 column  
  
arrayVar[0][0] =1;  
  
arrayVar[0][1] =2;  
  
arrayVar[1][0] =3;  
  
arrayVar[1][1] =4;
```

Example :

```
import java.util.*;  
  
public class Main {  
    public static void main(String[] args) {  
        System.out.println("Learn Array!");  
        String[] fruits = {"Apple", "Orange", "Banana", "Grapes"};  
  
        for(int i =0 ; i < fruits.length;i++){  
            System.out.println("Fruit Name : "+fruits[i]);  
        }  
        System.out.println("Learn Single Dimensional Array!");  
        int p[]=new int[3];//declaration and instantiation  
        p[0]=60; //initialization  
        p[1]=70;  
        p[2]=80;  
        for(int j=0;j<p.length;j++){  
            System.out.println("Number is : "+p[j]);  
        }  
    }  
}
```

```
}  
  
System.out.println("Learn Multidimensional Dimensional Array!");  
//declaring and initializing 2D array  
int arrval[][]={{11,22,33},{12,14,15},{54,44,35}};  
//printing 2D array  
for(int i=0;i<3;i++){  
for(int j=0;j<3;j++){  
System.out.print(" "+arrval[i][j]);  
}  
System.out.println();  
}  
  
}  
}
```

Output :

```
Learn Array!  
Fruit Name : Apple  
Fruit Name : Orange  
Fruit Name : Banana  
Fruit Name : Grapes  
Learn Single Dimensional Array!  
Number is : 60  
Number is : 70  
Number is : 80  
Learn Multidimensional Dimensional Array!  
11 22 33  
12 14 15  
54 44 35
```