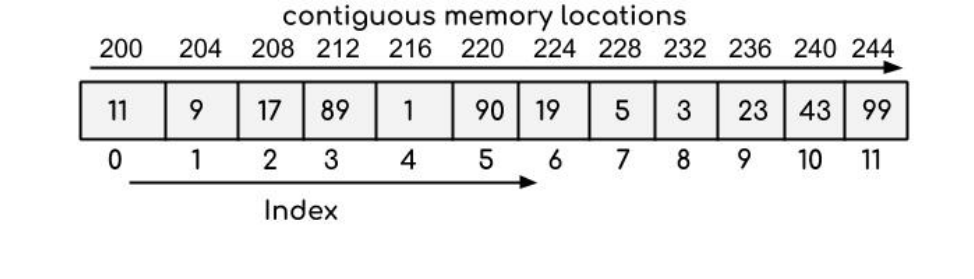
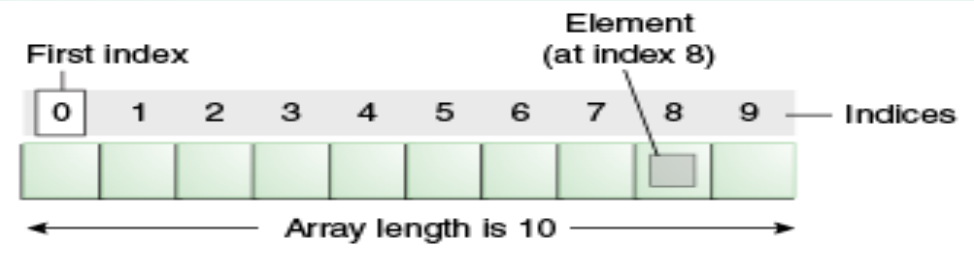
JAVADA MASSIVLAR

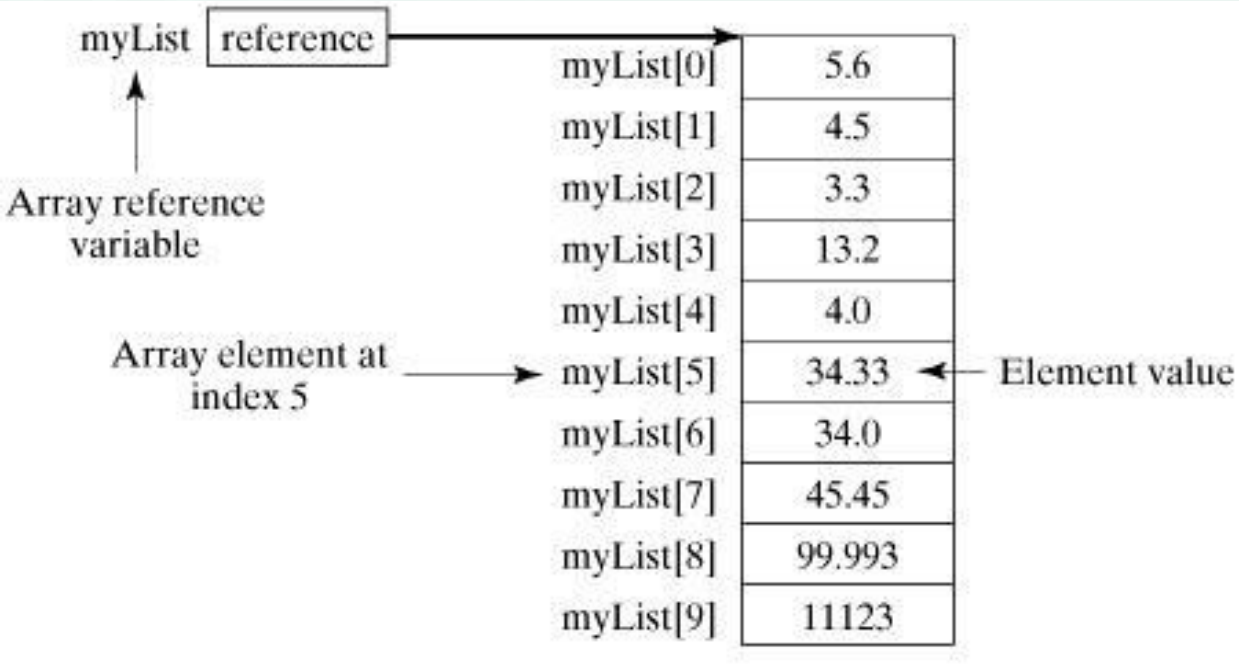
Array (massiv) – bu bir xil turdagi o’zgaruvchilar (ma’lumotlar) jamlamasidir. **Java** da **array** deganda bir xil toifadagi elementlardan iborat ob’ekt tushuniladi. Unda biz faqat belgilangan (aniq) miqdordagi elementlarni saqlashimiz mumkin. Javada Array indeksga asoslangan bo’lib, uning birinchi elementi 0 indeksga ega.



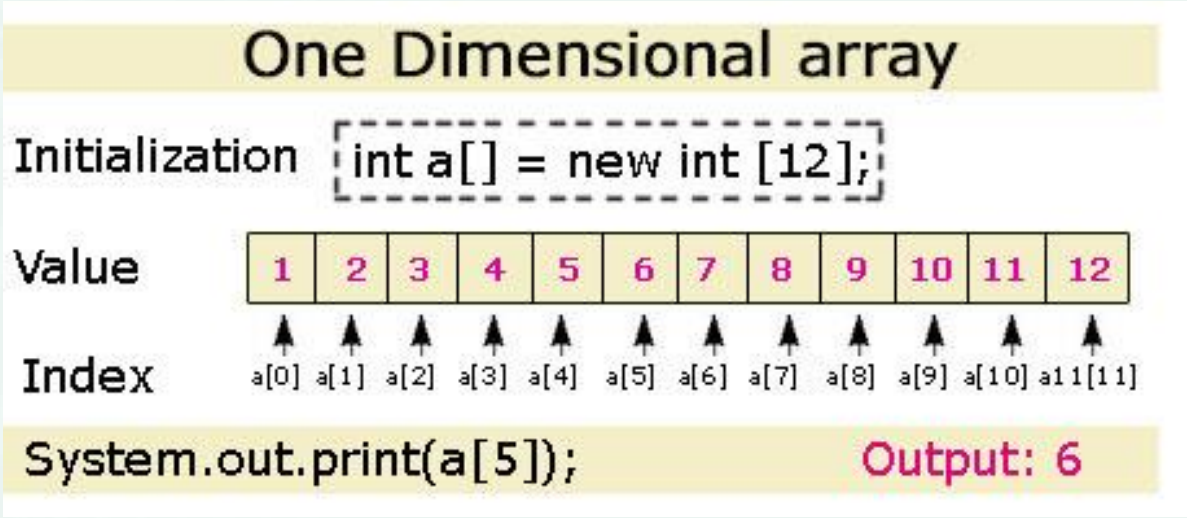


PERSONAL
DEVELOPMENT PROCESS
stay weird, stay different

Java Array – Structure



Bir o’lchovli massiv



Afzalligi

- **Code Optimization:** Kodni optimallashtiradi, ma’lumotlarni osongina olishimiz va saralashimiz mumkin.
- **Random access:** Istalgan indeksdagi xoxlagan elementni olishimiz mumkin.

Noqulayligi

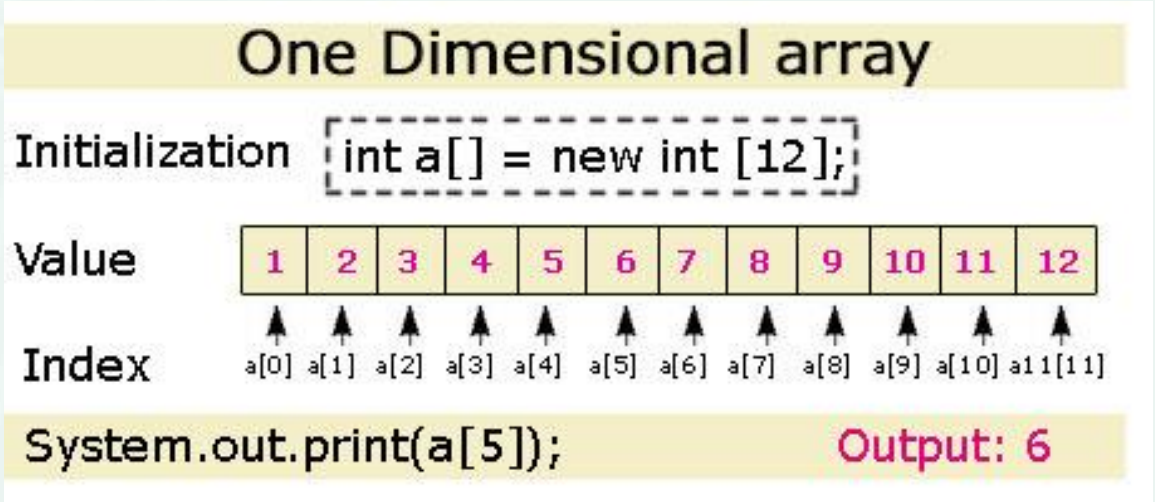
- **Size Limit:** Biz belgilangan miqdordagi elementlarni saqlashimiz mumkin. Dastur bajarilish jarayonida uning o'lchami o'zgarmasdir. Bu muammoni hal qilish uchun javada collectionlardan foydalaniladi.
- **Elements type:** Massivda faqat toifasi bir xil bo'lgan elementlarni saqlash mumkin.

Javada massiv turlari

Javada 2 xilturdagi massivlar mavjud:

- **Bir o’lchovli** (Single Dimensional Array)
- **Ko’p o’lhovli** (Multidimensional Array)

Bir o’lchovli massiv



Syntax to Declare an Array in java
dataType[] arr; (or)
dataType []arr; (or)
dataType arr[];

Instantiation of an Array in java
arrayRefVar=new datatype[size];

Example of single dimensional

```
int a[]=new int[5];//declaration and instantiation

a[0]=10;//initialization
a[1]=20;
a[2]=70;
a[3]=40;
a[4]=50;
```

Declaration, Instantiation and Initialization of Java Array

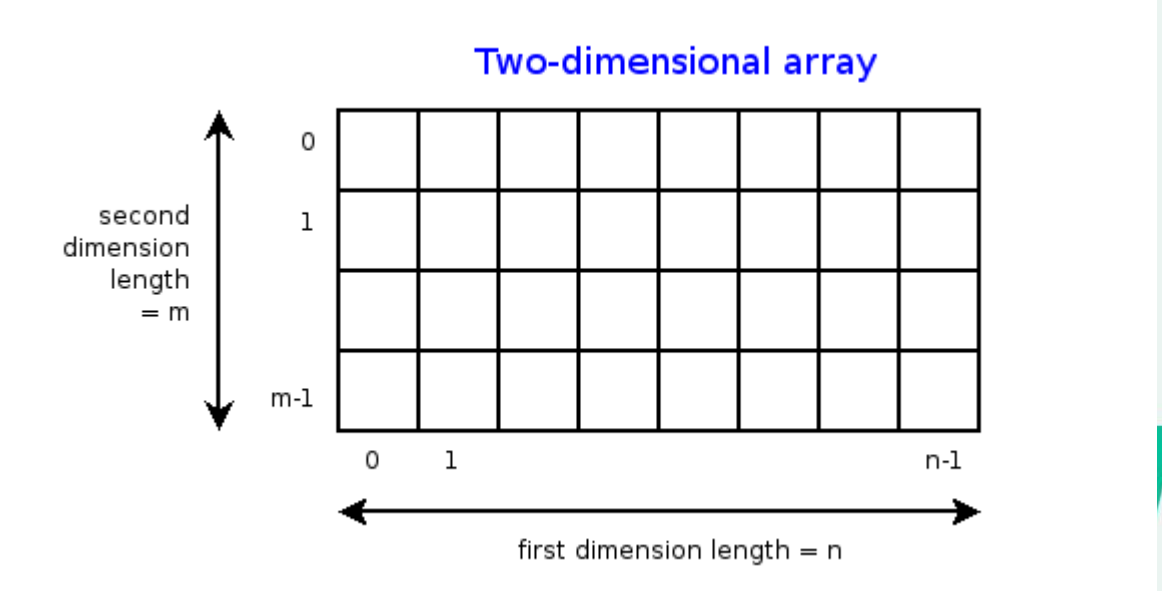
```
int a[]={33,3,4,5};//declaration, instantiation and initialization
```

foreach Loops Arrays

```
1  public class TestArray {
2
3      public static void main(String[] args) {
4          double[] myList = {1.9, 2.9, 3.4, 3.5};
5
6          // Print all the array elements
7          for (double element: myList) {
8              System.out.println(element);
9          }
10     }
11 }
```


Ko’p o’lchovli massiv

In such case, data is stored in row and column based index (also known as matrix form).



Example of multi dimensional

```
class MultiDimArrayDemo {
    public static void main(String[] args) {
        String[][] names = {
            {"Mr. ", "Mrs. ", "Ms. "},
            {"Smith", "Jones"}
        };
        // Mr. Smith
        System.out.println(names[0][0] + names[1][0]);
        // Ms. Jones
        System.out.println(names[0][2] + names[1][1]);
    }
}
```

Syntax to Declare Multidimensional Array

```
dataType[][] arrayRefVar; (or)
dataType [][]arrayRefVar; (or)
dataType arrayRefVar[][]; (or)
dataType []arrayRefVar[];
```

Example to instantiate Multidimensional Array in java

```
int[][] arr=new int[3][3];//3 row and 3 column
```

Example to initialize Multidimensional Array

```
//3 row and 3 column
int[][] arr=new int[3][3];
arr[0][0]=1;
arr[0][1]=2;
arr[0][2]=3;
arr[1][0]=4;
arr[1][1]=5;
arr[1][2]=6;
arr[2][0]=7;
arr[2][1]=8;
arr[2][2]=9;
```

```
//declaring and initializing 2D array
int arr[][]={{1,2,3},{2,4,5},{4,4,5}};

  //printing 2D array
for(int i=0;i<3;i++){
 for(int j=0;j<3;j++){
   System.out.print(arr[i][j]+" ");
 }
 System.out.println();
}
```