

Understanding Arrays

- An array is an indexed collection of fixed number of homogeneous data elements.
- An array stores multiple data items of the same data type, in a continuous block of memory, divided into a number of slots.

	0	1	2
number:	1	2	3

- The main advantage of arrays is we can represent multiple values with the same name so that readability of the code will be improved.
- The main disadvantage of arrays is its fixed length.
- It means once we created an array there is no chance of increasing or decreasing the size based on our requirement that is to use arrays compulsory, we should know the size in advance which may not possible always.
- We can resolve this problem by using **collections**.

How to declare an Array?

- To declare an array, write the data type, followed by a set of square brackets[], followed by the identifier name.

```
int []rollNumber; //valid
```

```
int rollNumber[]; //valid
```

- At the time of declaration we can't specify the size of an array.

```
int []rollNumber;
```

```
int [5]rollNumber; //error
```

How to Instantiate an array?

- To instantiate (or create) an array, write the new keyword and the datatype of the array, followed by the square brackets containing the number of elements you want the array to have.
- Every array in java is an object hence we can create by using new keyword.

```
int []rollNumber;
```

```
rollNumber=new int[5]; //valid 1st way
```

(or)

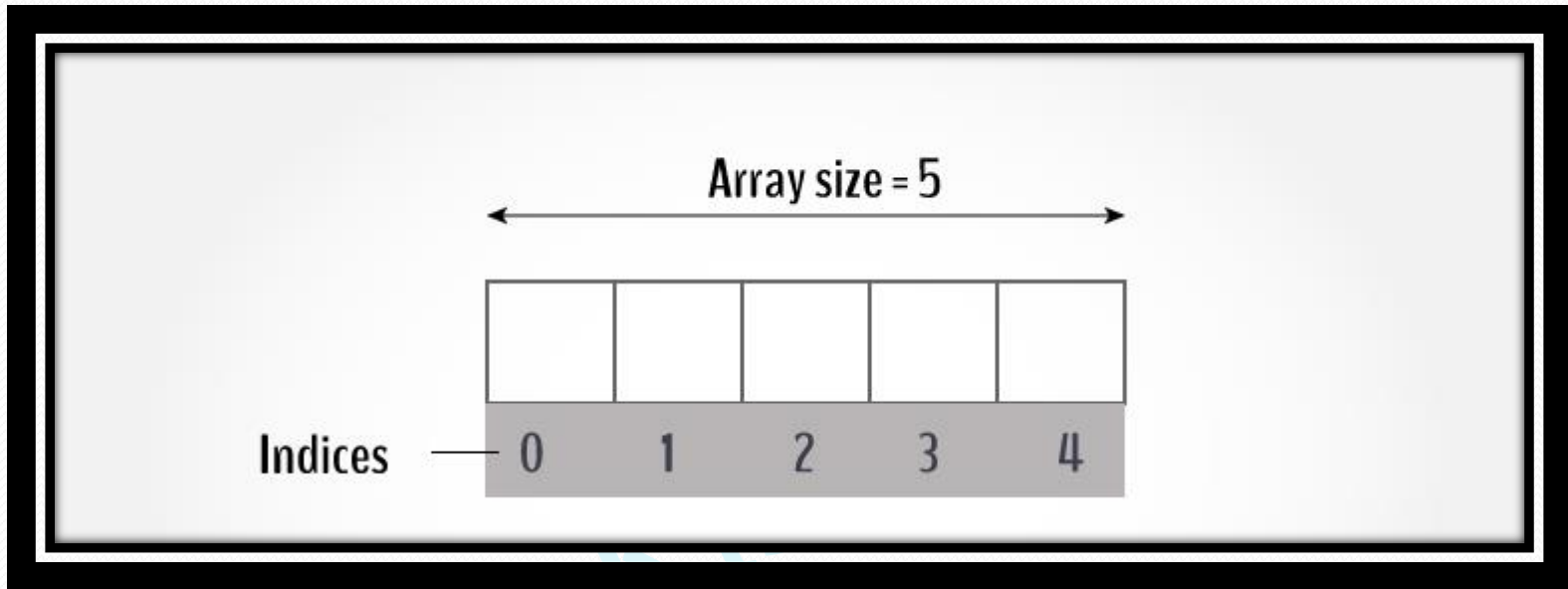
```
int []rollNumber=new int[5];// valid 2nd way
```

(or)

```
int []rollNumber=new int[]{ 10,20,30,40,50};// valid 3rd way
```

(or)

```
int []rollNumber={ 10,20,30,40,50}; //valid 4th way
```



- The length of an array starts with '1'
- The index position of an array starts with '0'