

① Array is an object which contains elements of a similar data type (Homogeneous data). we can store multiple data in a single variable. The elements of an array are stored in a contiguous memory location.

3 ways to create an array:

`int a[];`

`int[] b;`

`int []c;`

Dynamic way:-

data type variable name [J={Size}

ex: `int a[] = {10, 20, 30};`

② can you change size of array once created:-

The answer is NO.



③ The answer is yes, it is legal way  
int i[] = {1, 2, 3, 4, 5};

④ Advantages of Array:

- (i) Indexed Access
- (ii) contiguous Memory location
- (iii) Fixed Size
- (iv) Efficient for Random Access
- (v) Easy Manipulation

Disadvantages of Array:

- (i) Size of array can't be modified.
- (ii) No Dynamic Resizing.
- (iii) Memory wastage.
- (iv) Limited flexibility.
- (v) Lack of builtin Methods.

⑤ NO, the size of an array in java cannot be changed at runtime.

⑥ NO, you can't declare an array without specifying its size in java. The size of an array must be determined at the time of declaration.

⑦ The default value of an array depend on the type of the array elements. Here are the default values for different types of array.

for eg;

```
int a[] = new int(5);  
System.out.println(a[0]);
```

output: 0

```
float a[] = new float(5);
```

output: 0.0

⑧ To print the elements of an array in Java, you can use a loop or the `Arrays.toString()`

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using a loop:

```
int a[] = {1, 2, 3};  
for (int i = 0; i < a.length; i++)  
{ System.out.println(a[i]); }
```

using `Arrays.toString()`

```
import java.util.Arrays;  
int [] a = {1, 2, 3};  
System.out.println(Arrays.toString(a));
```

⑨ To compare two arrays:

// comparing by its size

```
int [] a = {1, 2, 3, 4, 5};  
int [] b = {6, 7, 8, 9, 10};  
if (a.length == b.length)  
{ System.out.println("equal");  
} else { System.out.println("not equal"); }
```

// comparing by each elements.

```
if (a.length == b.length)  
{ for (int i = 0; i < a.length; i++)  
  { if (a[i] == b[i])  
    { System.out.println("equal");  
    }  
  }  
}
```



10. How to Sort an Array?

```
public class SortingAkc {  
    public static void main (String  
        [] args)  
    {  
        int numbers[] = { 2, 1, 3, 4, 5 };  
        int temp = 0;  
        for (int i = 0; i < numbers.length - i + 1;  
            {  
                for (int j = i + 1; j < numbers.length;  
                    j++)  
                {  
                    if (numbers[i] > numbers[j])  
                    {  
                        temp = numbers[i];  
                        numbers[i] = numbers[j];  
                        numbers[j] = temp;  
                    }  
                }  
            }  
        }  
        for (int i = 0; i < numbers.length - i + 1;  
            {  
                System.out.println (numbers  
                    [i]);  
            }  
        }  
    }  
}
```

Above code is for Ascending order.

for descending order you change  
the logic with in inside for loop,

if (numbers[i] < numbers[j])

⑪ can we declare array size as a negative number?

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No, it is not possible to declare an array size as negative number in java. The size of array should be non-negative number.

example : `int a[] = new int[5];`

⑫ No, once an array is created and its size is defined you can't add or delete elements directly from an array.