

Day-12:
Assignment

13-05-2023

Array :: 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 contiguous memory location. We can store only a fixed set of elements in a java array.

There are two types of array:

- (i) Single dimensional Array.
- (ii) Multi dimensional Array.

Single dimensional Array:

* Standard Array

datatype variable_name[] = new
data-type [size];

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

3 ways commonly used:-

```
int a[];  
int[] b;  
int []c;
```

Dynamic Array:-

~~datatype variable name [] = new datatype {size};~~

`datatype variable name [] = {size};`

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

Example program - Standard Array:-

```
package org.array;  
public class ArrayEx {  
    public static void main (String [] args)  
    {  
        int a[] = new int[5];  
        a[0] = 35;  
        a[1] = 98;  
        a[2] = 54;  
        a[3] = 66;  
        a[4] = 99;  
        for (int i = 0; i < a.length; i++)  
        { System.out.println (a[i]);  
        }  
    }  
}
```

Multidimensional Array:-

```
package org.array;  
public class ArrayEx {  
    public static void main (String [] args)  
    {  
        int a[][] = new int [3][3];  
        a[0][0] = 100;  
        a[0][1] = 200;  
        a[0][2] = 300;  
        a[1][0] = 400;
```


a[1][1] = 500;

a[1][2] = 600;

~~a[1][3]~~ a[2][0] = 700;

a[2][1] = 800;

a[2][2] = 900;

```
for (int i = 0; i < a.length; i++)  
{ for (int j = 0; j < a.length; j++)
```

```
{ System.out.println(a[i][j]);
```

```
}  
}  
}
```

Disadvantages of Array :-

- * The java array needs to be declared with a given array.

- * The size of the array in java also cannot be increased or decreased.

- * As per the definition of arrays, they can only store data of a single type.

- * If arrays of a larger size than is required are declared, the memory may be wasted.

Object Array :-

package org.array;

```
public public class Arraydx {  
    public static void main  
        (String [] args)
```

```
{ object a[] = new object[5];
```

```
    a[0] = 23;
```

```
    a[1] = "java";
```

```
    a[2] = 'j';
```

```
    a[3] = 7.8f;
```

```
    a[4] = 15 } }
```

String methods (pending) :-

* toCharArray();

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```
package org.array;
public class ArrayEx {
    public static void main (String[] args) {
        String s = "March Batch 3";
        char [] a = s.toCharArray();
        for (int i=0; i < a.length; i++)
            { System.out.println(a[i]);
        }
    }
}
```

Split:

```
package org.array;
public static void main (String[] args)
{
    String s = "March Batch Three Students";
    String [] a = s.split(" ");
    for (int i=0; i < a.length; i++)
        { System.out.println(a[i]);
    }
}
```


NOTES
TARIQA

Array:

Array is an object.

int a[];

int [] b;

int [] f;

4000	4004	4008	4012	4016
35	98	54	66	99

Shares contiguous memory location.

int a[] = new int(5); static

int a[] = {10, 20, 30, 40, 50}; dynamic

two dimensional array :

100	200	300
400	500	600
700	800	900

row

→ row

vert | → column

homogeneous to heterogeneous.

Object [] = new Object [5];

Object → Super class of Java