ARRAYS

One-Dimensional ARRAY:

- Array is a collection of similar data elements.
- In java the array size is given after creating the new object.

  As int A[]= new int[x];

  Where A[] is the reference and int[x] is the object.

  Where object is created in the heap.

  And the reference is either in stack or heap.
- Location of characters in array can be accessed by using their index.
- Every array in java has length as its property which can be accessed by using "array-name.length".
- For loops are most frequently used for arrays.
- Using for loop all the elements in the arrays can be accessed/ elements in array can be transveresed using arrays.
- Java has introduced for each loop for accessing arrays in version java 1.5 or java 5.
- For each loop: syntax for(type var : array)

```
{
    Statements using var;
}
```

  Example program:

```
class test

{
  public static void main(String args[])
  {
    int A[]={2,4,6,8,10}
    for(int i=0;i<A.length;i++)
    {
      System.out.println(A[i]);
    }
   for(int i=A.length-1;i>=0;i--)
   {
     System.out.println(A[i]);
   }
 }
}
```

Two-Dimensional ARRAY:

- Two-dimensional array are suitable for matrices and tabular form.
- Syntax for creating two-dimensional array in java is

  : int A[][] = new int [3][4].
- It is also known as array of arrays or collection of arrays
- Object is created In heap but the reference may or may not be created in heap.
- Array_name.length gives number of rows.
- Array_name[index].length gives the number of columns.

  Example program:

```
class test

{
  public static void main(String args[])
  {
     int A[][];
     for(int i=0;i<A.length;i++)
     {
        for(int j=0;j<A[0].length;j++)
        {
           System.out.println(A[i][j]);
        }
        System.out.println("\n");
     }
   }
}
```

- In for each loop the array have no integer elements but the reference elements.
- Syntax of for each loop for two dimensional array:

```
for(type var :array)
{
    for(type var1 :type var)
        {
            Statements using
        var(type var 1);
    }
}
```

Example:

```
class test:

{
  public static void main(String args[])
  {
     int A[];
     for(int x[]:A)
     {
       for(int y:x)
       {
         System.out.println(y);
       }
       System.out.println("\n");
     }
  }
}
```

- Jagged array is a type of array in which the members are of different sizes.
- In jagged array the members of arrays are created separately according to their sizes using their indices.