**ARRAYS:**  Array is a special type of variable which can hold multiple values.

in java we have the following types of arrays

* single Dimensional array
* multi Dimensional array
* object array
* ArrayList class
* Hashtable class

Note: ArrayList class ,Hashtable class are predefined class of collection API in java.

For storing and retrieving values to and from array we will use **index**. Index starts with 0 and continues like 1.2.3……

**Single Dimensional array**

Syntax: datatype arrayname[] = new datatype[size];

**Multi Dimensional array:** to store more noof multiple values very easily we should use this array

Syntax: datatype arrayname[] [] = new datatype[rowsize][ columnsize];

**Object array:**  it is used for storing **multiple values of different datatypes**

Syntax: Object arrayname []= new Object[size]; //to store single dimension

Object arrayname[] [] = new Object [rowsize] [ columnsize];//to store multi dimension

**ArrayList class:** it is used for simulating dynamically growing array.

Syntax: ArrayList<datatype> arrayname= new ArrayList<datatype>();

For **retrieving values** from this we will **use index**. Index starts with 0 and continues like 1.2.3……

**To add data** to this array we need to use the below syntax

Syntax: **arrayname.add(data);**

Note: here data is of same data type’s data by the time of declaration

**To access(retrieve) data** from this array we need to use the below syntax

Syntax: **arrayname.get(indexno);**

**Hashtable class :** is used for simulating dynamically growing array.

For **storing and retrieving** values to and from this we will **use keys** instead of Index

Syntax: **Hashtable<datatype1, datatype2> arrayname= new Hashtable<datatype1, datatype2>();**

datatype1 is for keys & datatype2 is for values and datatype1 ,datatype2 are datatype’s class name

**To add data** to this array we need to use the below syntax

Syntax: **arrayname.put(data, data);**

Note: here data is of same data type’s data by the time of declaration

**To access(retrieve) data** from this array we need to use the below syntax

Syntax: **arrayname.get(key);**