**Day 7**

**Arrays in Java**

* An array is a container object that holds a fixed number of values of a single type. The length of an array is established when the array is created. After creation, its length is fixed.
* Array is a data structure, in which data can be stored, manipulated, deleted etc.
* In array storage is based on index. That is, first element will be stored in 0th position/index.

**Advantages of Array**

1. **Code Optimization:** By using array we can retrieve or sort data
2. **Random Access:** We can access the position of the data. Members of the array are stored in consecutive memory locations.

**Disadvantages of Array**

1. **Size Limit:** The Java array needs to be declared with a given array. It is not possible to declare an array without knowing what the array's size is going to be. The size of the array in Java also cannot be increased or decreased.

**Types of Arrays**

In Java, there are two types of arrays:

1. Single Dimensional Array

**arrayRefVar = new datatype[size];**

**int a[] = new int[5];**

**int a[] = {1,2,3,4,5};**

class TestArray

{

public static void main(String args[])

{

int a[] = {1,2,3,4,5};

int len = a.length;

for(int i=0;i<len;i++)

{

System.out.println(a[i]);

}

}

}

1. Multi-Dimensional Array.

**int a[][] = new int[3][3];**

**int a[][] = {{1,2,3},{4,5,6},{7,8,9}};**

for(int i=0;i<3;i++)

{

for(int j=0;j<3;j++)

{

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

}

}