1D Arrays

Hello Everyone

Arrays: Sequential collection of similar data.

Eg. Books, Train, Movies etc.

Syntax of an array:

```
datatype[] arrayName = new datatype[size];

int[] marks = new int[5];
```

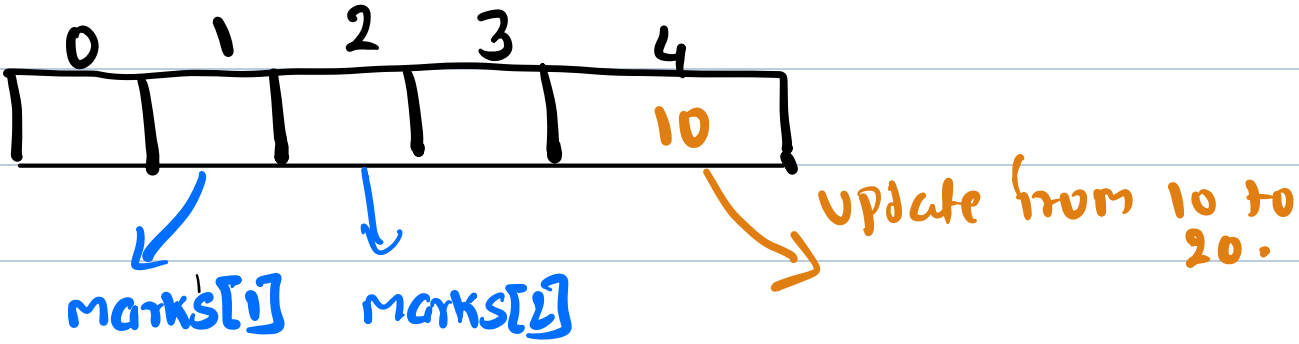
`int[]` → datatype

`marks` → arrayName

`new int[5];` → size

datatype array name

In Java index start from 0.



marks[4] = 20;

Quiz 1: Maximum index of array of size N.

N - 1

Quiz 2: sum of an array = {3, 4, 1, 5, 1}

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Q.4) Given an array as an input, return the freq. of K in the array.

input: [1, 2, 1, 1, 3, 0, 1, 4, 6]

K = 1	K = 2	K = 5
4	1	0

```
int frequencyofK(int[] arr, int K)
{
    int N = arr.length;
    int freq = 0;

    for(int i=0; i<N; i++)
    {
        if(arr[i] == K)
        {
            freq++; // freq = freq+1;
        }
    }
    return freq;
```

}

Q.5) Given an array, return the freq. count of an array.

```
                0 1 2 3 4 5 6 7
// arr = [ 1,1, 2,1, 3, 4, 2, 1]
output=[ 4,4, 2,4, 1, 1, 2, 4]
```

```
int[] frequenCount (int[] arr)
{
    int n = arr.length;

    int[] result = new int[n];

    for(int i=0; i<n; i++)
    {
result[i] = frequencyOfK(arr, arr[i]);

    }
```

} return result;

```
                0  1  2  3  4  5  6  7
// arr = [ 1, 1, 2, 1, 3, 4, 2, 1 ]
```

N = 8

0	1	2	3	4	5	6	7
4	4	2	4	1	1	2	4

i=0 arr[0] = 1
i=1 arr[1] = 1
i=2 arr[2] = 2
i=3 arr[3] = 1
i=4 arr[4] = 3
i=5 arr[5] = 4
i=6 arr[6] = 2
i=7 arr[7] = 1
i=8 → False

frequencyofK(arr, 1) ⇒ 4
frequencyofK(arr, 1) ⇒ 4
frequencyofK(arr, 2) ⇒ 2
freqK(arr, 1) => 4
freqK(arr, 3) => 1
freqK(arr, 4) => 1
freqK(arr, 2) => 2
freqK(arr, 1) => 4

Q.7) Given an integer array as an input, check whether it is strictly increasing.

// input n = 5
{3, 4, 4, 5, 7}
output: False

// arr: {1, 2, 5, 8, 9}
output: True.

```
boolean isIncreasing(int[] arr)
{
    int n = arr.length;

    for(int i=1; i<n; i++)
    {
        if(arr[i] <= arr[i-1])
        {
            return false;
```

```
        }
    }
    return true;
}
```

Doubt session

```
int[] frequencyCount(int[] arr)
{
    int N = arr.length;
    int[] result = new int[N];

    for(i=0; i<N; i++)
    {
        int searchElement = arr[i];
        int count=0
```

```
for(int j=0; j<n; j++)
{
    if (searchEle == arr[j])
    {
        count ++;
    }
}
result[i] = count;
}
return result;
}
```

{ 3, 4, 4, 5, 7, 3}

{ 1, 2, 1, 1}

{ 3, 3, 3, 3, 3}

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