

1D-Arrays

Let us take the Example.

Ex:- you have to take 5 input & Print it.

Brute Force [Easiest]

```
int a1 a2 a3 a4 a5  
// input  
// print
```

Ex:- you have take 50 inputs & print it.

Ans → **ARRAYS** homogeneous
↳ Sequential collect of similar data

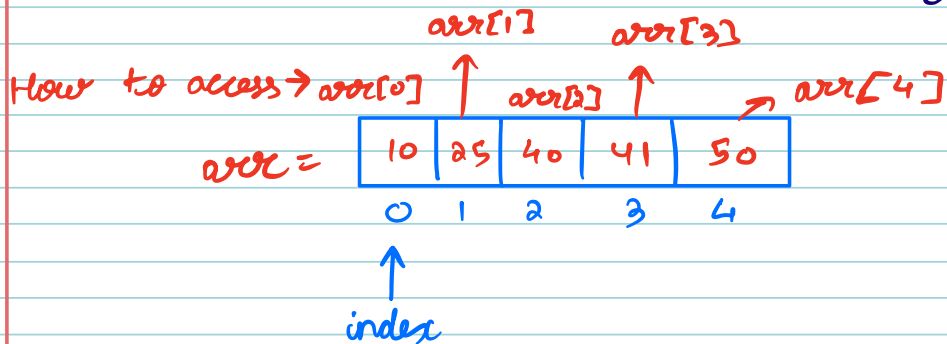
Real Examples:- Train, YT playlist, movie list

How to Create 1D Array in Java.

SYNTAX :-
① $\overset{\text{Data Type}}{\text{int}} [\overset{\text{Size of array}}{arr}] = \text{new } \underset{\text{Data type}}{\text{int}} [\underset{\text{Name}}{arr}];$

③ `int arr[] = new int[Size];`

How it works in Memory??



★ Array Index always start from 0.

★ Array is of fixed size.

Question - 4

Given an Integer array as input, check whether x is present in the array or not.

arr[] = { 3, 8, -1, 10, 0 }

$x = 3 \rightarrow \checkmark$ True

$x = 100 \rightarrow \times$ False

$x = -1 \rightarrow \checkmark$

PSEUDO CODE :-

WRONG
CODE

```
boolean find ( int[] arr, int x ) {  
    for ( i = 0; i < arr.length; i++ ) {  
        if ( arr[i] == x ) {  
            return True;  
        } else {  
            return False;  
        }  
    }  
    return False;  
}
```

arr[] = { ⁰3, ¹8, ²-1, ³10, ⁴0 }

$x = -1$

Correct Code

```
boolean find ( int[] arr, int x) {  
    for ( i = 0; i < arr.length ; i++) {  
        if ( arr[i] == x ) {  
            return True;  
        }  
    }  
    return False;  
}
```

Question 5

Given an Integer array, return freq of k in the array.

Ex- arr[] → { 1, 2, 1, 1, 3, 0, 2, 1, 2 }

k = 1 → 4

k = 2 → 3

k = -1 → 0

PSEUDO CODE :-

```
int frequency ( int[] arr, int k) {  
    int count = 0;  
    for ( i = 0; i < arr.length; i++) {  
        if ( arr[i] == k ) {  
            count++;  
        }  
    }  
}
```

```

    }
    return count;
}

```

Question 6

Given an integer array, return freq
Count of array

Ex:-

arr[] → [1 1 2 1 3 1 3]
 ↓ ↓ ↓ ↓ ↓ ↓ ↓
 new freq[] → [4 4 1 4 2 4 2]

OBSERVATIONS :- ① We need a freq Count of each no. in the array.

PSEUDO CODE :-

```

int[] freqCount ( int[] arr ) {
    int n = arr.length;
    int[] ans = new int[n];
    for ( i = 0; i < n; i++ ) {
        int freq = frequency ( arr,
                               arr[i] );
        ans [i] = freq;
    }
    return ans;
}

int frequency ( int[] arr, int k ) {
    int count = 0;
    for ( i = 0; i < arr.length; i++ ) {
        if ( arr[i] == k ) {

```

```

    }
    }
    }
    return count;
}
count++;

```

Question 7 :-

Given an Integer array, check whether it is strictly increasing.

arr[] = { 1 2 3 4 5 } ✓
 arr[] = { 1 2 2 3 4 } ✗
 arr[] = { 1 2 1 2 1 } ✗

↑
 i

OBSERVATION :- $arr[i] \geq arr[i+1]$
then false

PSEUDO CODE :-

```

boolean ISIncreasing ( int[] arr ) {
    for ( i = 0 ; i < n-1 arr.length ; i++ ) {
        if ( arr[i] >= arr[i+1] ) {
            return False;
        }
    }
    return True;
}

```

arr[] = { 1 2 3 4 5 }

↑
n-2

ONLINE SCALER IDE

[https://www.scaler.com/topics/java/online-java-compiler/?
snippet_slug=146514f99a62349db235](https://www.scaler.com/topics/java/online-java-compiler/?snippet_slug=146514f99a62349db235)