

(0 0 0 / 0

→

→ Code handle by

int a = 1

loop (0)

int fibonacci = 1

for (int i = 1; i <= n; i++)

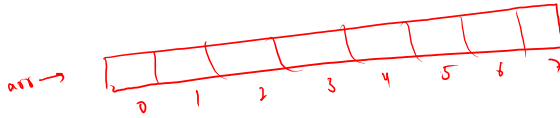
Simple NP

↳ code



## Array:-

↳ linear DS which is used to store similar type of info in a continuous manner.



size

datatype <sup>same</sup> arr-name [ ] = new datatype [size];

ex → int arr [ ] = new int [10];

→ Length of arr = ?

→ arr.length

~~(X)~~

Q-1

M.M of array :-

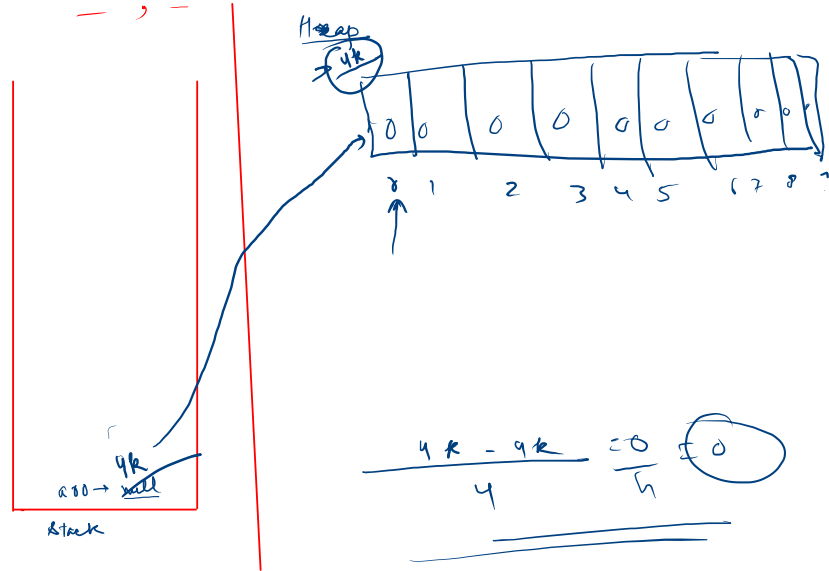
① int arr[10]; → Declaration

② arr = new int(10); → Initialization

int a; → Declaration  
a = 10; → Initialization

1 int = 4 bytes

10 int = 4 × 10 = 40 bytes



$$\frac{4k - 9k}{4} = \frac{-5k}{4} = -1.25k$$

# Chart (2 July)

$$n = 4$$

9.11

Problem

Submissions

Leaderboard

Discussions

1. You are given a number  $n$ , representing the size of array  $a$ .
2. You are given  $n$  numbers, representing elements of array  $a$ .
3. You are required to print a bar chart representing value of array  $a$ .

10 → Day Run  
→ code

Sample Input 0

4  
3  
4  
5  
1

Sample Output 0

```

*
**
***
****
*****

```

	0	1	2	3
	3	4	5	1
0	*	*	*	*
1	*	*	*	*
2	*	*	*	*
3	*	*	*	*

Why 5 rows?

$$3 > 5 - 4$$

$$3 > 1$$

① → Max value of the array

② → Iterate over this matrix

$$row = 5$$

Pattern

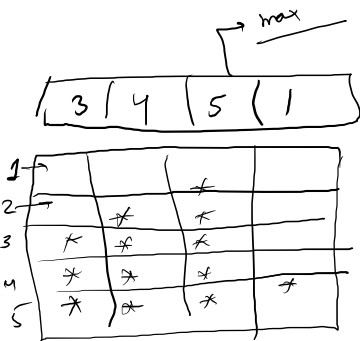
if (val > max-row)  
→ print("x")  
else  
→ print(" ");

for (int i = 0; i < max; i++)  
{  
for (int j = 0; j < n; j++)

$$val > 5 - 1 \rightarrow \text{false}$$

$$3 > 4$$

$$4 > 4 \rightarrow \text{false}$$



Val  $\rightarrow$  max - 1

3 > 5 - 1

3 > 4  $\rightarrow$  True  $\rightarrow$  \*  
 3 > 4  $\rightarrow$  False  $\rightarrow$  \*

```

public class Solution {
    public static int maxOfArray(int arr[]){
        int max = arr[0];
        for(int i=1;i<arr.length;i++){
            if(arr[i] > max){
                max=arr[i];
            }
        }
        return max;
    }

    public static void printChart(int arr[], int max){
        for(int i=1;i<=max;i++){
            for(int j=0;j<arr.length;j++){
                int val = arr[j];
                if(val>max-i){
                    System.out.print("* ");
                }else{
                    System.out.print(" ");
                }
            }
            System.out.println();
        }
    }

    public static void main(String[] args) {
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your
        Scanner scn = new Scanner(System.in);
        int n =scn.nextInt();

        int arr[] = new int [n];
        for(int i=0;i<n;i++){
            arr[i] = scn.nextInt();
        }

        int maxElement = maxOfArray(arr);
        printChart(arr,maxElement);
    }
}

```

# Sum of Arrays (2 July)

Problem	Submissions	Leaderboard	Discussions
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- You are given a number  $n1$ , representing the size of array  $a1$ .
- You are given  $n1$  numbers, representing elements of array  $a1$ .
- You are given a number  $n2$ , representing the size of array  $a2$ .
- You are given  $n2$  numbers, representing elements of array  $a2$ .
- The two arrays represent digits of two numbers.
- You are required to add the numbers represented by two arrays and print the arrays.

Sample Input 0

```

3
1 2 3
4
5 6 7 8

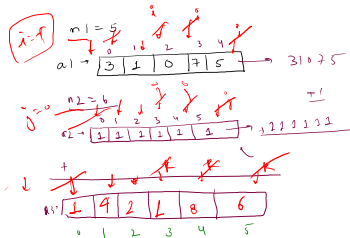
```

Sample Output 0

```

8
7 8 9 10

```



$$\Rightarrow i = n1 - 1$$

$$\text{carry} = 0$$

$$a1[i] + a2[j] + \text{carry}$$

$$\text{if}(i < 0) \text{---}$$

$$\text{if}(j < 0) \text{---}$$

stoppping

all three ~~variables~~  
variable  
value  
sum < 10  
sum > 10

$$a1[i] = 5 \text{ } 6 \text{ } 7 \text{ } 8 \text{ } 0$$

$$a2[j] = 5 \text{ } 6 \text{ } 7 \text{ } 8 \text{ } 1$$

$$\text{carry} = 0$$

$$\frac{5}{10} \rightarrow 0$$

$$\frac{35}{10} \rightarrow 3$$

$$\text{sum} = a1[i] + a2[j] + \text{carry}$$

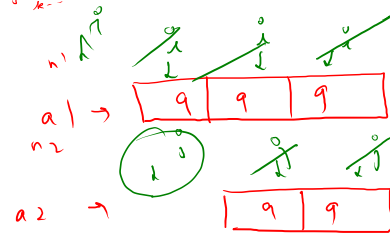
$$\text{if}(sum < 10) \rightarrow$$

$$\text{if}(sum > 10) \rightarrow$$

$$i =$$

$$j =$$

$$k =$$



$$\frac{999}{10} \rightarrow 99$$

$$\text{sum} = a1[i] + a2[j] + \text{carry}$$

$$= 9 + 9 + 0$$

$$= 18$$

$$= 9 + 9 + 1$$

$$= 19$$

$$\frac{19}{10} \rightarrow 1$$

$$= 9 + 0 + 1$$

$$= 10$$

$$\frac{10}{10} \rightarrow 1$$

$$\text{carry} = 1$$

$$\text{sum} / 10 = 18 / 10 = 1$$

$$\text{sum} \% 10 = 18 \% 10 = 8$$

$$\text{if}(\text{carry} > 0)$$

$$\text{sum} = \text{sum} + \text{carry}$$

```

public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    Scanner scn = new Scanner(System.in);
    int n1 = scn.nextInt();
    int a1 [] = new int [n1];
    for(int i=0;i<n1;i++){
        a1[i] = scn.nextInt();
    }

    int n2 = scn.nextInt();
    int a2 [] = new int [n2];
    for(int i=0;i<n2;i++){
        a2[i] = scn.nextInt();
    }

    int a3 [] = new int [n2>n1?n2:n1];
    int i=n1-1,j=n2-1,k=a3.length-1,carry = 0;

    while(i>=0 || j>=0 || k>=0){
        int sum = 0;
        if(i>=0) sum += a1[i];
        if(j>=0) sum += a2[j];
        sum += carry;

        a3[k] = sum%10;
        carry = sum/10;

        i--;
        j--;
        k--;
    }

    if(carry > 0){
        System.out.println(carry);
    }

    for(i=0;i<a3.length;i++){
        System.out.println(a3[i]);
    }
}

```