① Introduction to C++

② Intro to STL → vectors / stack / queue / priority queue / ~~sa~~ / algorithm

③ Basic Info about Order of time Complexity.

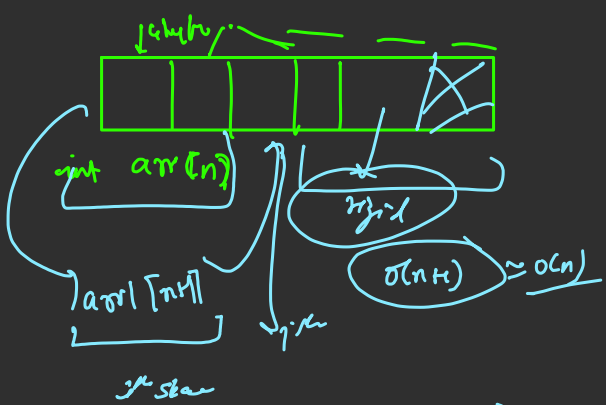
④ Stack.

① Intro :-

How's C++ different from C;

C → printf / scanf

C++ → cout / cin.



What technically order is

for (n >> 1)

o(f(n))

$O(n^2)$

$O(n)$

$O(f(n))$

$f(n)$

$O(n \log k + n)$

$\simeq O(n \log k)$

$f(n) \geq c\, g(n)$

scanf("%d", &x)

int

"%lld", &x

cin >> x → llong int

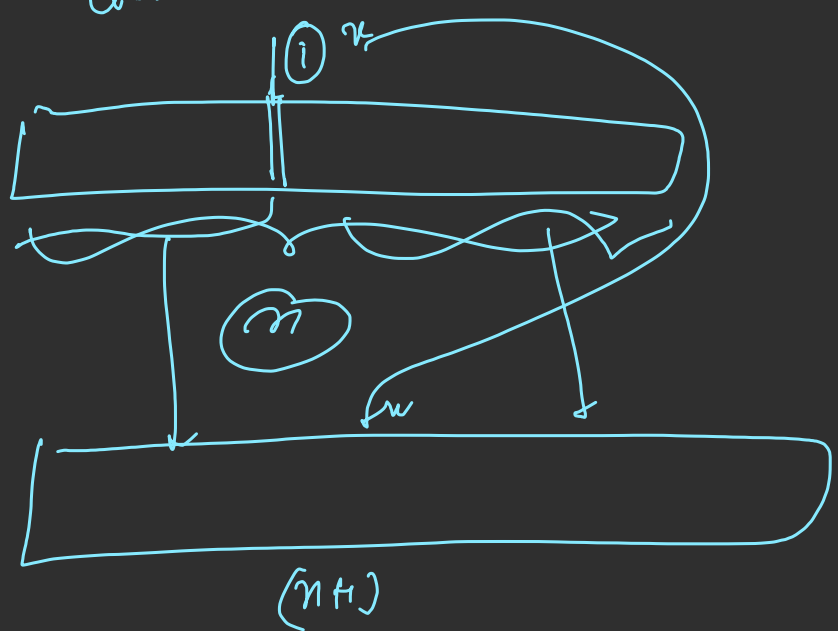
→ int

strif

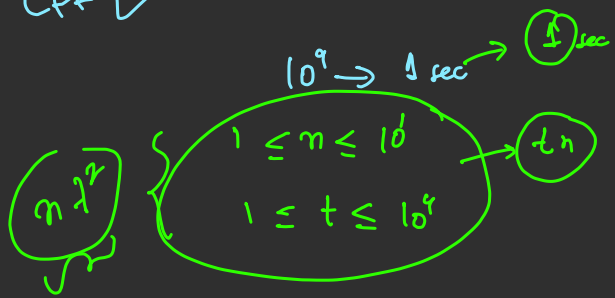
char s;

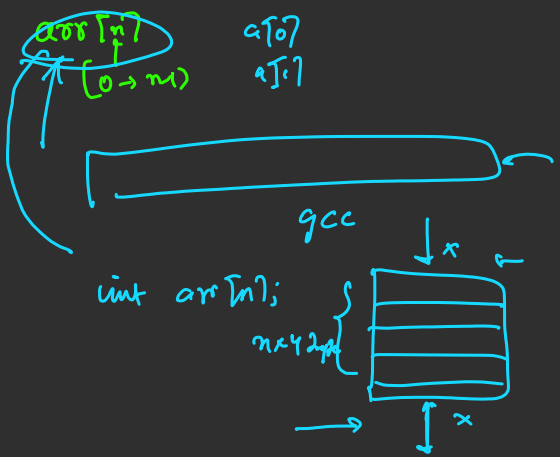
cin >> s

("%c", &s)



C++ ✓





$10^9 \rightarrow 1$ sec $\rightarrow$ 1 sec

$n\lambda^2$ $\left\{ \begin{array}{l} 1 \le n \le 10^1 \\ 1 \le t \le 10^4 \end{array} \right.$ $\rightarrow$ tn

arr[n] a[0]

[0 → n-1) a[1]

gcc

int arr[n];

n×4 2pts

x

x

vector

#include <vector>.

vector <int> arr; $\rightarrow$ arr(n)

$\rightarrow$ arr

data type

char, string

arr[4] = {1, 2, 3, 4}

vector <int> arr = {1, 2, 3, 4} (4)

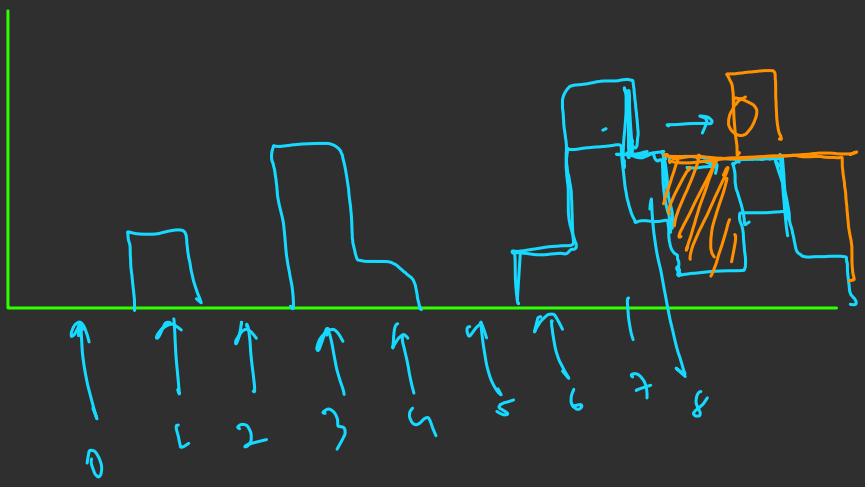
arr.push_back(5).

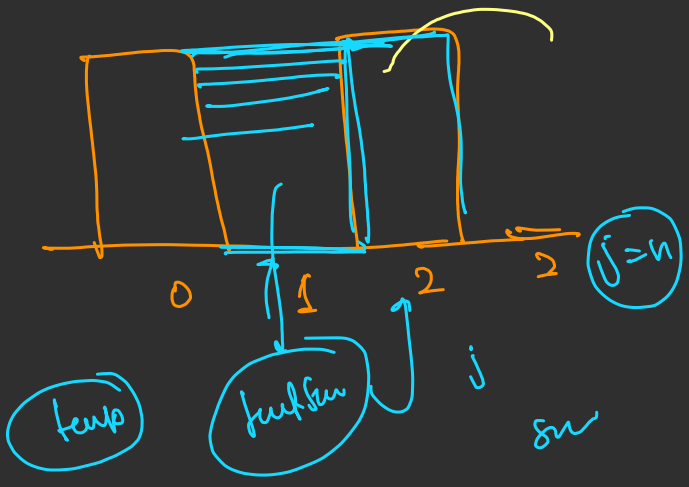
arr = {1, 2, 3, 4, 5} // (5)

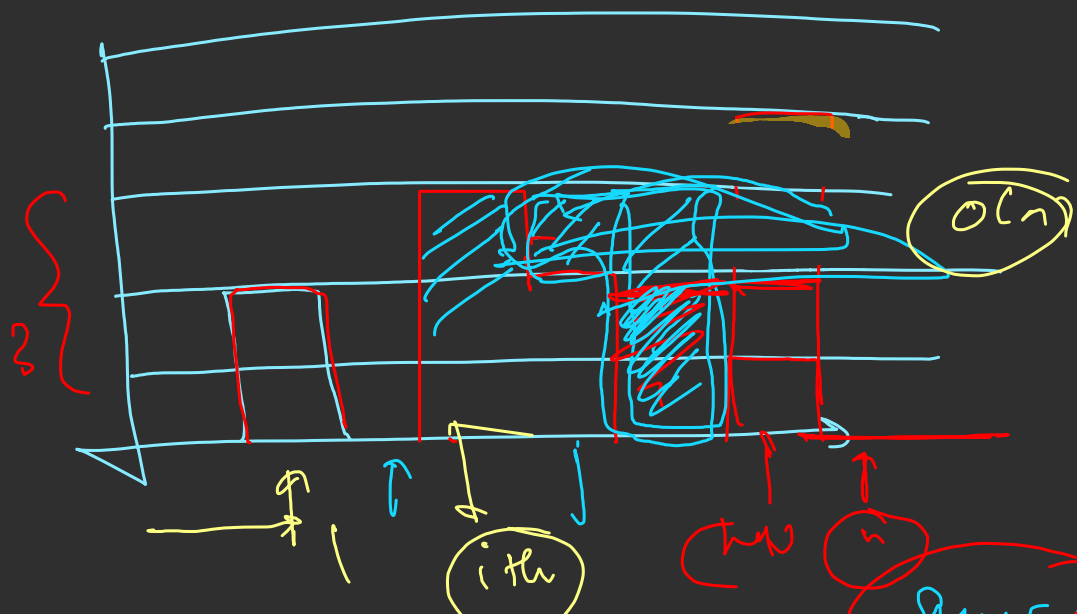
arr.pop();

{1, 2, 3} // ②

arr.size().





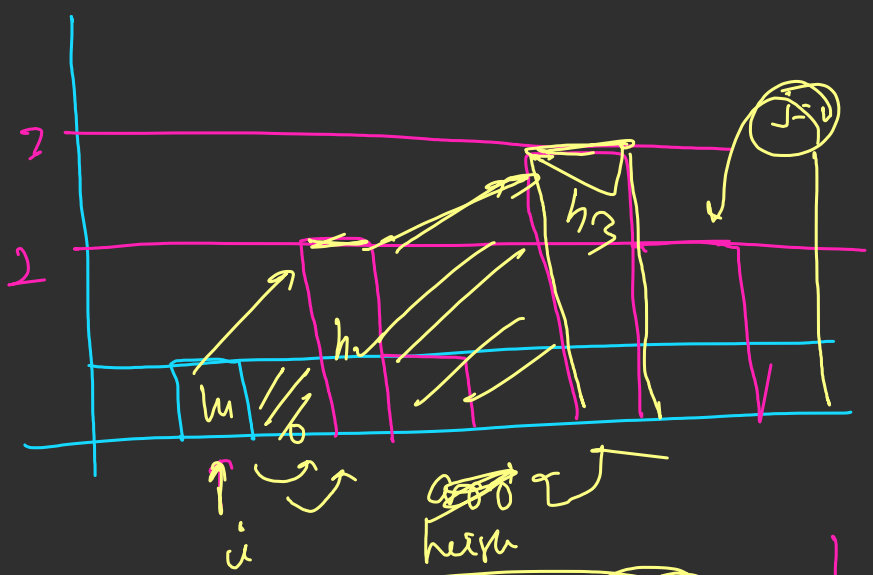


sum = 2;

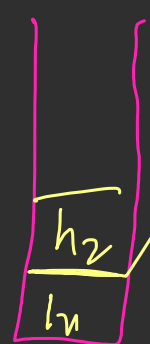
```
arr[i] = temp
i = tempIndex
j = i+1;
while (j < n && arr[j] < temp) {
    sum += (temp - arr[j]);
    j++; }
```

for (i=0 to n-1)

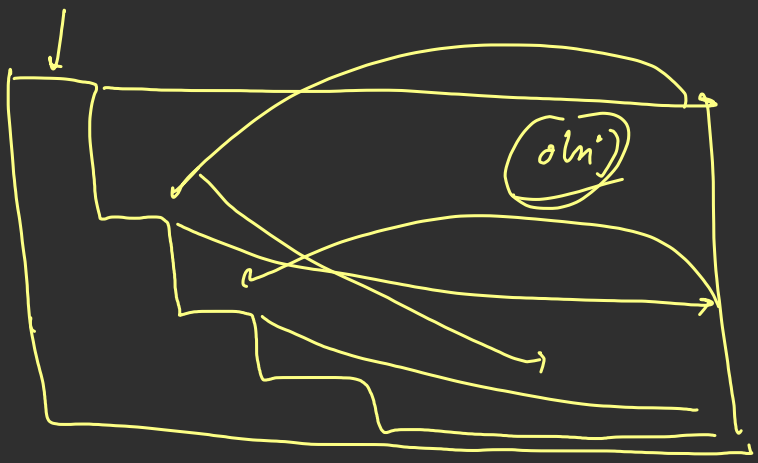
```
if( j == n); {
    sum = c1;
    j = i+1;
```

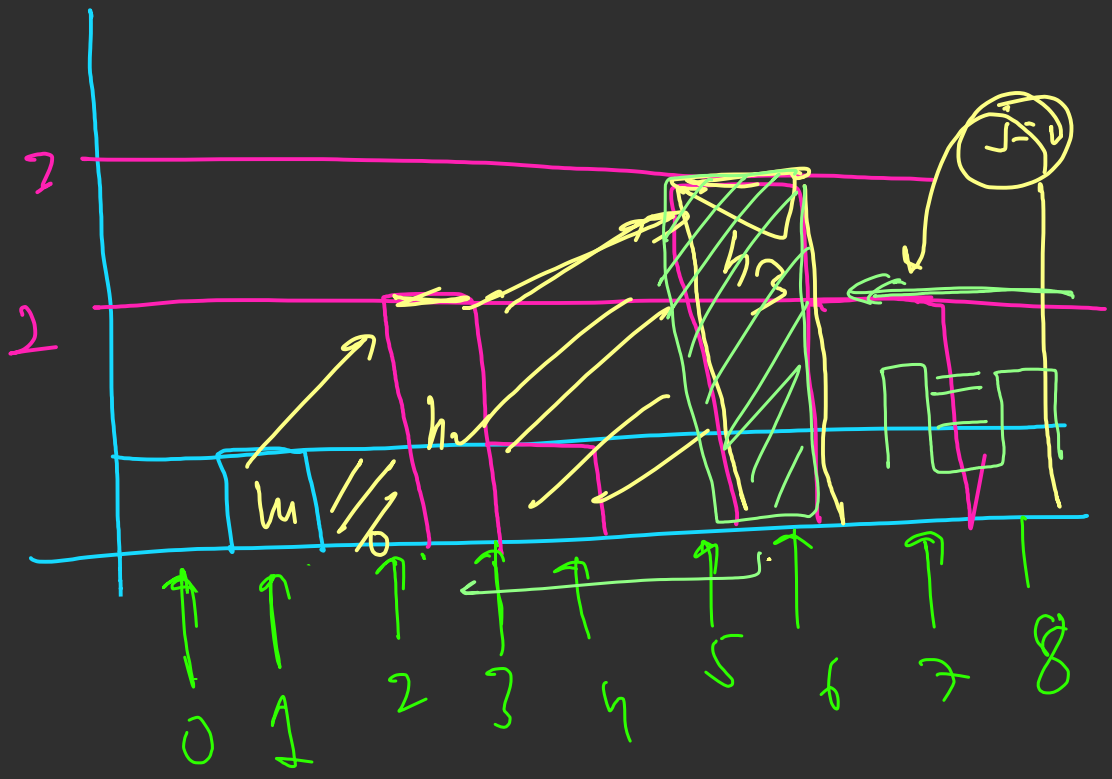


vector <int> arr



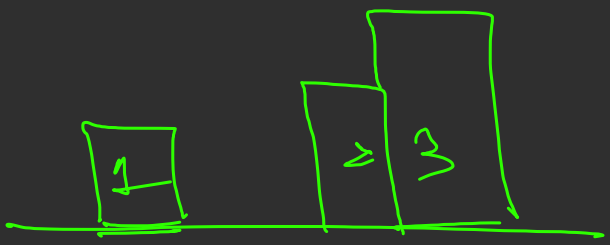

```
sum += arr.top_
    height(i);
i++;
```

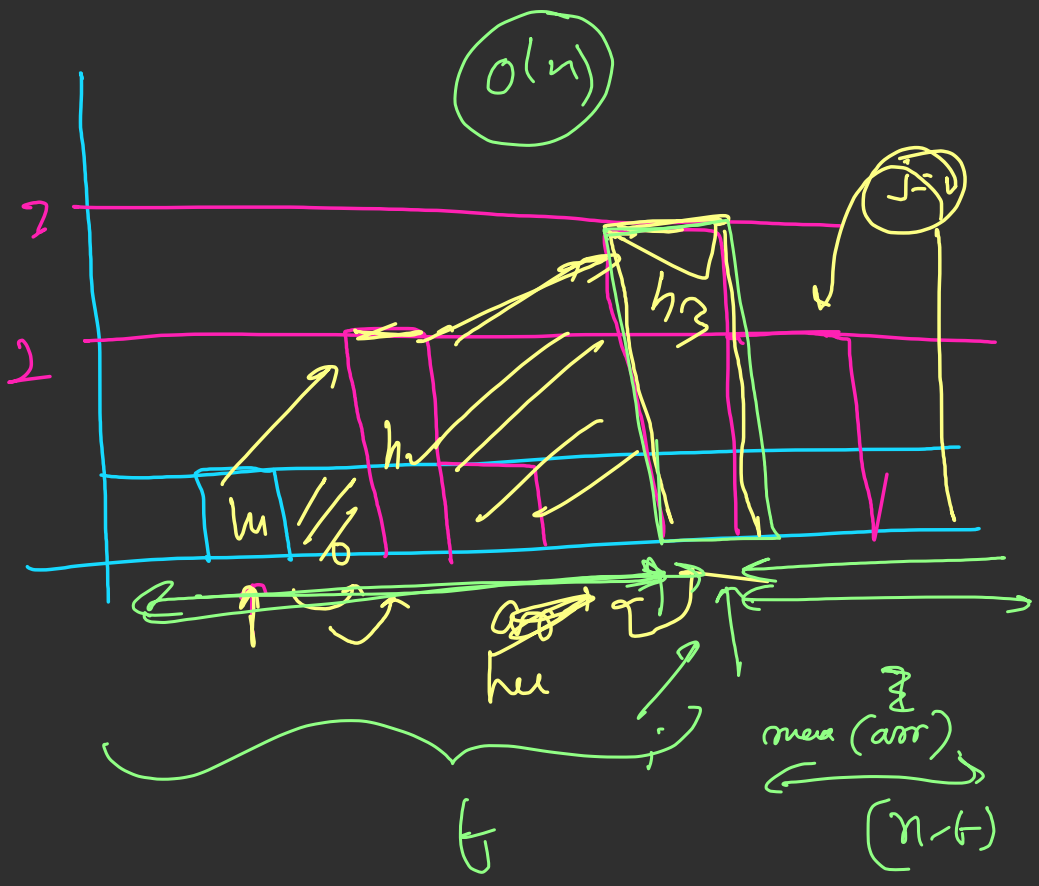




O(n) →

local mean



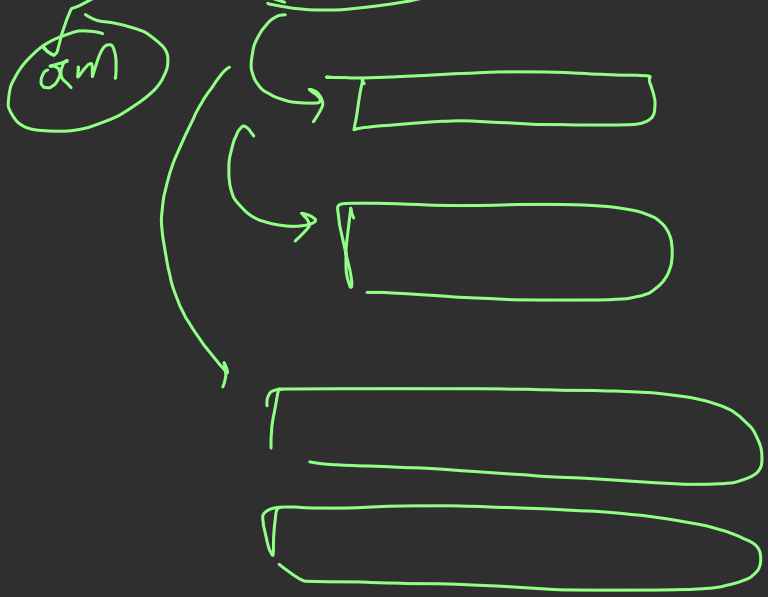


Time Complexity

$O(n^2)$

$O(n)$

Vector



Contest → codeforces

800

900

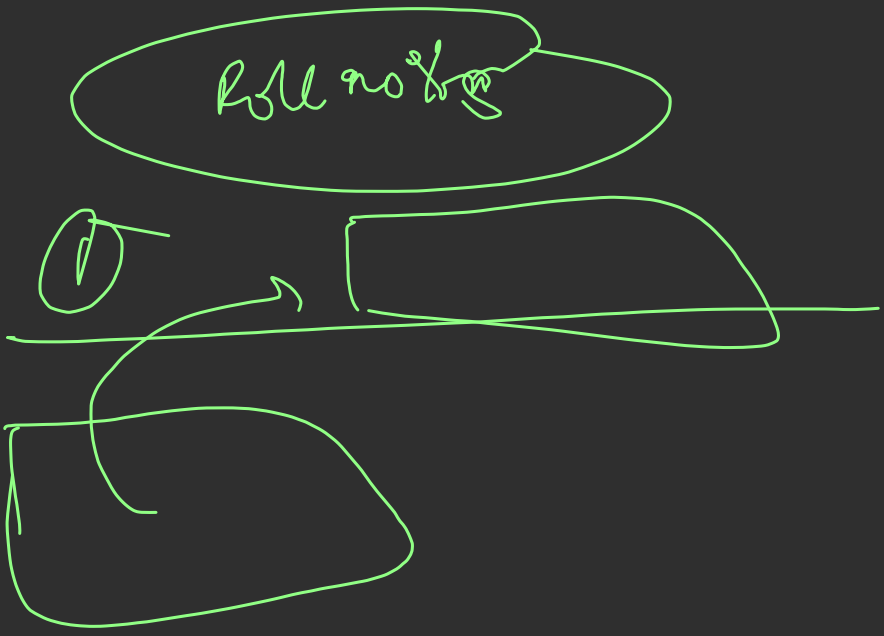
Current rating[i]

900

~~900×10~~

1000

1100 × 2

= 10 * arr(currentrating(i))

+ 2* arr(curr(i) + 100(200)