

Intro CP C++ 6/3/26

vector is a class in C++ which manages a dynamically sized array.

empty vector

`vector<int> nums;` // empty

`vector<double> scores;`

`vector<string>`

`vector<int> nums(10);` // makes init size 10.

`vector<int> scores(n, 0);` // makes length n
initialize all to 0

Access element `nums[5]`, same as array

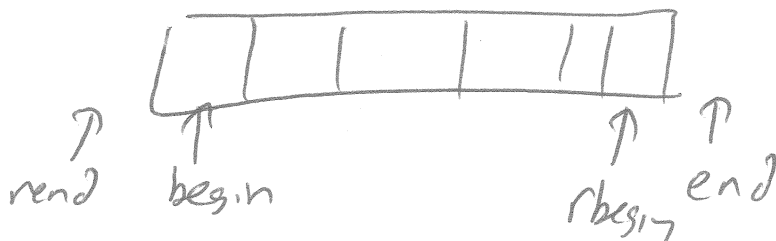
* `begin, end` ; `rbegin, rend`

* `push-back, size, pop-back, swap`

`sort ( nums.begin(), nums.end() )`

`sort ( nums.rbegin(), nums.rend() )`

~~reverse~~ `reverse (nums.begin(), nums.end())`



Downtime

$k \mid 3$

2, 3, 4, 4, 6, 8, 20, 27, ...	1001	1003
4 4 $\uparrow$	4 $\uparrow$	$\uparrow$

47 elements

Proof need $\geq \lceil \frac{47}{3} \rceil$

SLIDING WINDOW