



Vectors (Dynamic Array)

in ka size jo hai
humne define nhi
karna parta when
we are declaring it

① `#include <vector>`

us mein hum jitne bhi
add kar sakte h.

② declaration:-

`Vector<int> v;`
data type.

③ assign value:- Kuch element dalne ko

`v.push_back(1);`
2 iske end mein
aa jaege.

`v.push_back(2);`

④ to print values function give vector size

1) way

`for (int i = 0; i < v.size(); i++)`

`cout << v[i] << endl;`

Vectorname.assign (int size, int value);

eg vector<int> v;

v.assign(7, 100); \rightarrow {100, 100, 100, 100, 100, 100, 100}

②-way. Through iterator

also
vector<int>::iterator it;
v.assign({1, 2, 3}); \rightarrow v: {1, 2, 3}

for (it = v.begin(); it != v.end(); it++)

{

cout << *it << endl; \rightarrow as it is pointer.

}

③-way. through auto keyword.

ye v vector ko element h

for (auto element : v)

{

cout << element;

}

ye keyword h jo compiler ko bolta h ki kya decide kar le kounsa datatype h, through initialization.

[8] (element)

④

v.pop_back(); \rightarrow Jo hummera nth element hai usse pop kar dega.

⑤

declaration if we know the size

size 3 element

Vector<int> v2(3); \rightarrow size OR Vector<int> v2(3, 50); \rightarrow

⑥

to swap b/w two
vectors.

⑥ swap (v, v2);

⑦ sort (v.begin(), v.end());

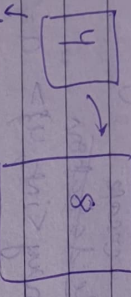
V.size() → total size elements hai
 V.capacity() → total size memory allocated hai k
 Kitha space empty hai k empty space

②

Vector :-

dynamic array → jaise ki aap string element deal karte hai

ye vector apna size double kar leta hai.



ye ek naya vector

banaya double size ka, jisme elements copy kar diye aur puran dump ho jayega.

* Vector initialization

Vector<int> v; // initially 0 memory allocate hai.

* add elements

V.push-back(1);

* cout << "Element at end index" << V.at(2) << endl;

* cout << "Front" << V.front() << endl;

* cout << "Last element" << V.back() << endl;

* Remove element

V.pop-back(); // remove from last

*

clear

→ vector phali jagah se size 0 karta hai

V.clear();

*

copy

Vector<int> v1, v2; v1 = v2; // v1 ke saare element v2 mein copy ho jayenge

③

Deque :-

double ended queue

→ aap dono end (begin & last) mein push/pop kar sakte hai.

memory

→ they are continuous memory stored data but they are multiple fixed size array (phir computer ki)

→ It is dynamic and random access possible

* deque<int> d;

* d.push-back(1);

* d.push-front(2);

* d.pop-back();

* d.pop-front();

Remove