RAM RAM CODERS

ARRAY vs VECTOR

-*Team Bro Coders*

**Code Used:-**

#include <bits/stdc++.h>

using namespace std;

int main()

{

int N=5, K=2;

int a[N];

vector<int> v;

a[0]=1;

a[1]=2;

a[2]=3;

a[3]=5;

v.push\_back(1); cout<<v.capacity()<<" <--- capacity vs size ----> "<<v.size()<<endl;

v.push\_back(2); cout<<v.capacity()<<" <--- capacity vs size ----> "<<v.size()<<endl;

v.push\_back(3); cout<<v.capacity()<<" <--- capacity vs size ----> "<<v.size()<<endl;

v.push\_back(5); cout<<v.capacity()<<" <--- capacity vs size ----> "<<v.size()<<endl;

// insert 6 at position K

cout<<"==== Testing the Insertion ===="<<endl;

for(int i=N-1;i>K;i--)

a[i]=a[i-1];

a[K]=6;

v.insert(v.begin()+K, 6);

cout<<v.capacity()<<" <--- capacity vs size ----> "<<v.size()<<endl;

v.shrink\_to\_fit();

cout<<v.capacity()<<" <--- capacity vs size ----> "<<v.size()<<endl;

for(int i=0; i<N; i++)

cout<<"Array : "<<a[i]<<" Vector : "<<v[i]<<endl;

// delete at position K

cout<<"==== Testing the Deletion ===="<<endl;

for(int i=K; i<N-1; i++)

a[i]=a[i+1];

v.erase(v.begin()+K);

for(int i=0; i<N-1; i++)

cout<<"Array : "<<a[i]<<" Vector : "<<v[i]<<endl;

return 0;

}

**Link to dynamic array class implementation**

[**Dynamic Array Class**](https://www.cs.nmsu.edu/~rth/cs/cs471/C%2B%2BDynamicArray.pdf)

**Difference between array and vector**

[**Difference**](https://electricalvoice.com/difference-between-array-and-vector/#:~:text=A%20Vector%20is%20a%20sequential,same%20type)%20in%20sequential%20order.&text=Arrays%20have%20a%20fixed%20size,i.e%20they%20can%20resize%20themselves.)

**Script used in the video**

Array [Data Structure= Data Structure is a way to store and organize data so that it can be used efficiently.]

Vector [Container= a container is a [class](https://en.wikipedia.org/wiki/Class_(computer_science)) or a [data structure](https://en.wikipedia.org/wiki/Data_structure) whose instances are collections of other objects. In other words, they store objects in an organized way that follows specific access rules.]

#include<vector>

C++ does not have a dynamic array inbuilt, although it does have a template in the Standard Template Library called vector which does the same thing.

Size() :Insertion() :Deletion() :