**Write a cpp program to implement map**

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//Code:

#include <iostream>  
#include <map>  
#include <vector>  
using namespace std;  
  
void printFrequency(vector<int> v)  
{  
 // Define an map  
 map<int, int> M;  
   
 // storing frequency in map  
 for(int i:v){  
 M[i]++;  
 }  
  
 // display frequency  
 cout<<"Frequency of elements: "<<endl;  
 for(auto pr:M){  
 cout<<pr.first<<": "<<pr.second<<"\n";  
 }  
}  
  
// Driver Code  
int main()  
{  
 int n;  
 cout<<"Enter size of array: ";  
 cin>>n;  
  
 vector<int>v(n);  
  
 for(int &i:v){  
 cin>>i;  
 }  
  
 printFrequency(v);  
}

Output:

TEST CASE 1:  
Enter size of array: 5  
1  
1  
2  
2  
1  
Frequency of elements:   
1: 3  
2: 2

**Write a cpp program to implement matrix**

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//Code:

#include <iostream>  
#include <vector>  
using namespace std;  
#define newLine '\n'  
  
int main(){  
 int n,m;  
 cout<<"Enter size of matrix: ";  
 cin>>n>>m;  
   
 vector<vector<int>> mat(n, vector<int>(m));  
  
 for(int i=0;i<n;i++){  
 for(int j=0;j<m;j++){  
 cout<<"Enter element: ";  
 cin>>mat[i][j];  
 }  
 }  
  
 cout<<"\nYour matrix is: \n";  
  
 for(int i=0;i<n;i++){  
 for(int j=0;j<m;j++){  
 cout<<mat[i][j]<<" ";  
 }  
 cout<<newLine;  
 }  
}

Output:

TEST CASE 1:  
Enter size of matrix: 22  
Enter element: 1  
Enter element: 2  
Enter element: 3  
Enter element: 4  
  
Your matrix is:   
1 2   
3 4