

Array of Vectors:

```
#include <iostream>
#include<vector>
using namespace std;

void printVector(vector<int> v)
{
    cout<<"\nsize: "<<v.size()<<endl;
    for(int i=0;i<v.size();i++)
    {
        cout<<v[i]<<" ";
    }
}

void printPairOfVector(vector<pair<int,int>> a)
{
    cout<<"size: "<<a.size()<<endl;
    for(int i=0;i<a.size();i++)
    {
        cout<<"a[i].first: "<<a[i].first<<"
a[i].second"<<a[i].second<<endl;
    }
}

//vector of vectors
void printVectorOfVectors(vector<vector<int>> a)
{
    cout<<"Size of outer vector: "<<a.size()<<endl;
    for(int i=0;i<a.size();i++)
    {
        cout<<"size of inner vector a["<<i<<"]
"<<a[i].size()<<endl;
        for(int j=0;j<a[i].size();j++)
        {
            cout<<a[i][j]<<" ";
        }
    }
}
```

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        }
        cout<<endl;
    }
}
int main()
{
    // vector<int> v(5,8);
    // printVector(v);

    /*
    //vector of pairs
        // vector<pair<int,int>> v = {
    {1,2},{3,4},{5,6},{7,8}};
        // printPairOfVector(v);
    //taking input from user
        int n;
        cin>>n;
        vector<pair<int,int>> v;
        for(int i=0;i<n;i++)
        {
            int x,y;
            cin>>x>>y;
            // v.push_back({x,y});
            v.push_back(make_pair(x,y));
        }
        printPairOfVector(v);
    */

    /*
        //array of vectors

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int N;
cin>>N;
vector<int> v[N];

for(int i=0;i<N;i++)
{
    int n;
    cin>>n;
    for(int j=0;j<n;j++)
    {
        int x;
        cin>>x;
        v[i].push_back(x);
    }
}

for(int i=0;i<N;i++)
{
    cout<<"\nv.size: "<<v[i].size()<<endl;
    printVector(v[i]);
}
*/

/*
//vector of vectors Method 1
vector<vector<int>> v;
int N;
cin>>N;
for(int i=0;i<N;i++)
{

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        int n;
        cin>>n;
        vector<int> temp;
        v.push_back(temp);
        for(int j=0;j<n;j++)
        {
            int x;
            cin>>x;
            v[i].push_back(x);

        }
    }
    v[0].push_back(100);
    v.push_back(vector<int> {7,8,9});
    v.push_back(vector<int> {});
    v.push_back(vector<int> ());
    printVectorOfVectors(v);
    // for(int i=0;i<v.size();i++)
    //  printVector(v[i]);
*/

```

```

//vector of vectors Method 2
vector<vector<int>> v;
int N;
cin>>N;
for(int i=0;i<N;i++)
{
    int n;
    cin>>n;
    vector<int> temp;
    for(int j=0;j<n;j++)

```

```
    {  
        int x;  
        cin>>x;  
        temp.push_back(x);  
    }  
    v.push_back(temp);  
}  
  
printVectorOfVectors(v);  
// for(int i=0;i<v.size();i++)  
// {  
//     printVector(v[i]);  
// }  
return 0;  
}
```