Assignment – 35

A Job Ready Bootcamp in C++, DSA and IOT

Templates

1. 1. Declare a vector with Initialization and print the elements.

#include<iostream>

#include<vector>

using namespace std;

int main()

{

    vector<int> v{1,2,3,423,34};

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

    {

       cout<<v[i]<<" ";

    }

    return 0;

}

2. Declare a vector without initialization, insert some elements and print

#include<iostream>

#include<vector>

using namespace std;

int main()

{

    vector<int> v={};

    v.push\_back(100);

    v.push\_back(12);

    v.push\_back(34);

    v.push\_back(120);

    v.push\_back(123);

    v.push\_back(343);

    vector<int>::iterator it;

    for (auto it = v.begin(); it < v.end(); it++)

    {

        cout<<\*it<<" ";

    }

    return 0;

}

3. Write a function to print the element of a vector and take input from the user.

//Write a function to print the element of a vector and take input from the user.#include<iostream>

#include<vector>

#include<iostream>

using namespace std;

int main()

{

    int n;

    vector<int> v;

    cout<<"Enter NUmber "<<endl;

    cin>>n;

    while (n !=0)

    {

        v.push\_back(n);

        cout<<"If you want to stop append so press 0"<<endl;

        cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*";

        cout<<endl;

        cout<<"If you want to append more so press number what you want to append"<<endl;

        cin>>n;

    }

    for(auto i : v)

    {

        cout<<i<<" ";

    }

    return 0;

}

4. Write a program to Copy one vector’s elements to another vector.

 //4. Write a program to Copy one vector’s elements to another vector.

 #include<iostream>

 #include<vector>

 using namespace std;

 int main()

 {

    vector<int> v;

    vector<int> v1{1,2,3,4};

    for (int i = 0; i < 4; i++)

    {

        v.push\_back(i\*12);

    }

    v.swap(v1);

    vector<int>::iterator it;

    for ( auto it = v.begin(); it<v.end(); it++)

    {

       cout<<\*it<<" ";

    }

    cout<<endl;

    for ( auto it = v1.begin(); it<v1.end(); it++)

    {

       cout<<\*it<<" ";

    }

 }

5. Find largest and smallest elements in a vector

#include<iostream>

#include<algorithm>

#include<vector>

using namespace std;

int main()

{

        vector<int> a;

        a.push\_back(100);

        a.push\_back(23);

        a.push\_back(12);

        a.push\_back(3);

        a.push\_back(10);

        a.push\_back(233);

        a.push\_back(132);

        a.push\_back(3);

        cout<<"Largest element of array"<<endl;

        cout<<\*max\_element(a.begin(), a.end())<<endl;

        cout<<"Smallest array of the array"<<endl;

        cout<<\*min\_element(a.begin(), a.end())<<endl;

        return 0;

}

6. Write a program to reverse vector elements

#include<iostream>

#include<algorithm>

#include<vector>

using namespace std;

int main()

{

        vector<int> a;

        a.push\_back(100);

        a.push\_back(23);

        a.push\_back(12);

        a.push\_back(3);

        a.push\_back(10);

        a.push\_back(233);

        a.push\_back(132);

        a.push\_back(3);

        vector<int> :: iterator it;

        for (auto it=a.rbegin(); it<a.rend(); it++)

        {

            cout<<\*it<<" ";

        }

        return 0;

}

Or

#include<iostream>

#include<algorithm>

#include<vector>

using namespace std;

int main()

{

        vector<int> a;

        a.push\_back(100);

        a.push\_back(23);

        a.push\_back(12);

        a.push\_back(3);

        a.push\_back(10);

        a.push\_back(233);

        a.push\_back(132);

        a.push\_back(3);

        reverse(a.begin(), a.end());

        for(auto i : a)

        {

            cout<<i<<" ";

        }

        return 0;

}

7. Write a program to find sum of vector elements

#include<iostream>

#include<algorithm>

#include<vector>

using namespace std;

int main()

{

        vector<int> a;

        int sum=0;

        a.push\_back(100);

        a.push\_back(23);

        a.push\_back(12);

        a.push\_back(3);

        a.push\_back(10);

        a.push\_back(233);

        a.push\_back(132);

        a.push\_back(3);

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

        {

            sum=sum+a[i];

        }

        cout<<"Sum of the aray is :"<<sum;

        return 0;

}

Or

Through accumulate function

// 8. Write a program to find common elements between two vectors.

#include<iostream>

#include<algorithm>

#include<vector>

#include<numeric>

using namespace std;

int main()

{

    int n;

    vector<int> a;

    cout<<"Enter number"<<endl;

    cin>>n;

    while (n!=0)

    {

        a.push\_back(n);

        cout<<"press 0 for terminate"<<endl;

        cout<<endl;

        cout<<"for more elemenst"<<endl;

        cin>>n;

    }

    int sum = accumulate(a.begin(), a.end(),0);

    cout<<"sum is : "<<sum;

}

8. Write a program to find common elements between two vectors.

// 8. Write a program to find common elements between two vectors.

#include<iostream>

#include<algorithm>

#include<vector>

#include<numeric>

using namespace std;

int main()

{

    int n;

    vector<int> a{2,3,4,5,6};

    vector<int> b{33,4,6,2,3};

    sort(a.begin(), a.end());

    sort(b.begin(), b.end());

    vector<int> c(a.size()+b.size());

    vector<int>::iterator it;

    set\_intersection(a.begin(), a.end(), b.begin(), b.end(), c.begin());

    cout<<"common Elements :";

    for (auto it = c.begin(); it != c.end(); it++)

    {

        cout<<\*it<<" ";

    }

    return 0;

}

9. Write a program to Push and print elements in a float vector

#include<iostream>

#include<vector>

using namespace std;

int main()

{

    vector<float> fl;

    fl.push\_back(12.2);

    fl.push\_back(23.2);

    fl.push\_back(13.5);

    fl.push\_back(24.5);

    fl.push\_back(15.55);

    fl.push\_back(26.78);

    for (int i = 0; i < 6; i++)

    {

        cout<<fl[i];

    }

    return 0;

}

10. Write a program to check whether an element exists in a vector or not.

#include<iostream>

#include<vector>

#include<numeric>

#include<algorithm>

using namespace std;

int main()

{

    vector<float> fl{2,3,4,5,6};

    int n;

    cout<<"Enter the element :"<<endl;

    cin>>n;

    vector<float>::iterator it = find(fl.begin(), fl.end(), n);

    if (it != fl.end())

    {

        cout<<"Element found "<<n<<endl;

        cout<<"at position "<<it- fl.begin()+1<<endl;

    }

    else

    {

        cout<<"Element fot found";

    }

    return 0;

}