Assignement 37

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

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v{1,2,6,4,5};

    for(auto x : v)

    {

        cout<<x<<" , ";

    }

    return 0;

}

Output:

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem01.cpp -o problem01 } ; if ($?) { .\problem01 }

1 , 2 , 6 , 4 , 5 ,

PS C:\Users\tusha\Documents\coadind\assignement37>

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

Input:

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v;

    v.push\_back(5);

    v.push\_back(3);

    v.push\_back(7);

    v.push\_back(1);

    cout<<"entered element is the array is : ";

    for(auto x : v)

    {

        cout<<x<<" , ";

    }

    return 0;

}

Ouput;

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem01.cpp -o problem01 } ; if ($?) { .\problem01 }

entered element is the array is : 5 , 3 , 7 , 1 ,

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

#include<bits/stdc++.h>

using namespace std;

void print(vector<int> &v)

{

    for(auto x : v)

    {

        cout<<x<<" ";

    }

}

int main()

{

    vector<int> v;

    cout<<"enter the number of element : ";

    int n;

    cin>>n;

    cout<<"enter the elements : ";

    for (int i = 0; i < n ; i++)

    {

        int x;

        cin>>x;

        v.push\_back(x);

    }

    cout<<"entered element is the array is : ";

    print(v);

    return 0;

}

Ouput:

PS C:\Users\tusha\Documents\coadind\assignement37> cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem01.cpp -o problem01 } ; if ($?) { .\problem01 }

enter the number of element : 5

enter the elements : 1 5 4 6 2

entered element is the array is : 1 5 4 6 2

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

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v1{1,5,7,6,2};

    vector<int> v2(v1);

    cout<<"element of 1st vector is : "<<endl;

    for(auto x: v1)

    {

        cout<<x<<" ";

    }

    cout<<"\nelement of 2nd vector is : "<<endl;

    for(auto x: v2)

    {

        cout<<x<<" ";

    }

    return 0;

}

Output:

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem04.cpp -o problem04 } ; if ($?) { .\problem04 }

element of 1st vector is :

1 5 7 6 2

element of 2nd vector is :

1 5 7 6 2

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6. Write a program to reverse vector elements

Input:

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v{1,2,4,5,6,1,2};

    int size=v.size();

    reverse(v.begin(), v.end());

    for(auto x: v)

    {

        cout<<x<<" ";

    }

    return 0;

}

Ouput:

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem06.cpp -o problem06 } ; if ($?) { .\problem06 }

2 1 6 5 4 2 1

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7. Write a program to find sum of vector elements

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v{1,2,4,5,6,1,2};

    int size=v.size();

    reverse(v.begin(), v.end());

    reverse(v.begin(), v.end());

    int sum=0;

    for(auto i = v.begin(); i!=v.end(); i++)

    {

        sum=sum + \*i;

    }

    cout<<endl;

    for(auto x: v)

    {

        cout<<x<<" ";

    }

    cout<<"\nthe sum of the element is : "<<sum<<endl;

    return 0;

}

c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem06.cpp -o problem06 } ; if ($?) { .\problem06 }

1 2 4 5 6 1 2

the sum of the element is : 21

PS C:\Users\tusha\Documents\coadind\assignement37>

Other soulution

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v{1,2,4,5,6,1,2};

    int size=v.size();

    for(auto x: v)

    {

        cout<<x<<" ";

    }

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

    cout<<"\nthe sum of the element is : "<<sum<<endl;

    return 0;

}

Ouput:

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem07.cpp -o problem07 } ; if ($?) { .\problem07 }

1 2 4 5 6 1 2

the sum of the element is : 21

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

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v1{10,20,40,50,30};

    vector<int> v2{70,80,90,40,30,10};

    sort(v1.begin(), v1.end());

    sort(v2.begin(), v2.end());

    vector<int> v3(v1.size()+v2.size());

    vector<int>::iterator it, end;

    end= set\_intersection(v1.begin(), v1.end(),v2.begin(),v2.end(),v3.begin());

    for(it=v3.begin(); it!= end; it++)

    {

        cout<<\*it<<" ";

    }

    cout<<endl;

    return 0;

}

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem08.cpp -o problem08 } ; if ($?) { .\problem08 }

10 30 40

PS C:\Users\tusha\Documents\coadind\assignement37>

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

#include<bits/stdc++.h>

using namespace std;

int main()

{

    vector<int> v1{10,20,40,50,30};

    vector<int> v2{70,80,90,40,30,10};

    sort(v1.begin(), v1.end());

    sort(v2.begin(), v2.end());

    vector<int> v3(v1.size()+v2.size());

    vector<int>::iterator it, end;

    end= set\_intersection(v1.begin(), v1.end(),v2.begin(),v2.end(),v3.begin());

    for(it=v3.begin(); it!= end; it++)

    {

        cout<<\*it<<" ";

    }

    int element;

    cout<<"\n enter the element : ";

    cin>>element;

    it=find(v3.begin(),v3.end(),element);

    if(it!=v3.end())

    {

        cout<<"\n the number is present "<<endl;

    }

    else{

        cout<<"\n the number is not present "<<endl;

    }

    cout<<endl;

    return 0;

}

Output:

cd "c:\Users\tusha\Documents\coadind\assignement37\" ; if ($?) { g++ problem08.cpp -o problem08 } ; if ($?) { .\problem08 }

10 30 40

enter the element : 4

the number is not present

PS C:\Users\tusha\Documents\coadind\assignement37>