Ejercicio 1: Vector sort

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

int main()
{
    vector<int> vector{ 4,8,1,25,2,6 };
    sort(vector.begin(), vector.end(),greater<int>());
    for (auto& elem : vector)
        cout << elem << " - ";

    return 0;
}
```

Ejercicio 2: Función comparar

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

bool funcion(int &a, int& b) {
    return a > b;
}

int main()
{
    vector<int> vector{ 4,8,1,25,2,6 };
    sort(vector.begin(), vector.end(),&funcion);
    for (auto& elem : vector)
        cout << elem << " - ";

    return 0;
}
```

Ejercicio 3: Crear ordenamiento con lambda

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

int main()
{
   vector<int> vector= { 56,23,43,12,1 };
        auto lambda = [](int l1, int l2) {
                return l1 > l2;
        };

        sort(vector.begin(), vector.end(), lambda);
    for(int i=0;i<vector.size();i++)
        cout<<vector.at(i)<<" ";

    return 0;
}
```

Ejercicio 4: Crear 3 vectores, ingresar valores,
ordenar cada vector, unir los vectores para ordenarlos.

```
#include <iostream>
#include <algorithm>
#include <vector>
using namespace std;
int main() {
    vector <int> v_1{ 1,6,4,22,8 };
    vector <int> v_2{ 5,8,1,6,70 };
    sort(v_1.begin(), v_1.end());
    sort(v_2.begin(), v_2.end());

    v_1.insert(v_1.end(), v_2.begin(), v_2.end());

    sort(v_1.begin(), v_1.end());

    for (int i = 0; i < v_1.size(); i++) {
        cout << v_1[i] << " ";
    }
    return 0;
```

```
}
```

Ejercicio 5: Crear 3 vectores sin función print

```
#include <iostream>
#include <algorithm>
#include <vector>
using namespace std;
int main() {

    auto lambda =[](int v1,int v2){return v1>v2;};

    vector <int> v_1{ 58,6,4,22,8 };
    vector <int> v_2{ 5,8,1,6,70 };
    vector <int> v_3{ 5,26,1,14,120 };
    sort(v_1.begin(), v_1.end());
    sort(v_2.begin(), v_2.end());
    sort(v_3.begin(), v_3.end());
    for (int i = 0; i < v_1.size(); i++) {
        cout << v_1[i] << " ";
    }
    cout<<"\n";
    for (int i = 0; i < v_2.size(); i++) {
        cout << v_2[i] << " ";
    }
    cout<<"\n";
    for (int i = 0; i < v_3.size(); i++) {
        cout << v_3[i] << " ";
    }
    cout<<"\n";
    v_1.insert(v_1.end(), v_2.begin(), v_2.end());
    v_1.insert(v_1.end(),v_3.begin(),v_3.end());
    sort(v_1.begin(), v_1.end());

    for (int i = 0; i < v_1.size(); i++) {
        cout << v_1[i] << " ";
    }
    return 0;
}
```

Ejercicio 6: Crear 3 vectores con función print

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

void print(vector<int> a){
    for(auto& elem:a)
        cout<<elem<<" ";
}
int main() {

    auto lambda =[](int v1,int v2){return v1>v2;};

    vector <int> v_1{ 58,6,4,22,8 };
    vector <int> v_2{ 5,8,1,6,70 };
    vector <int> v_3{ 5,26,1,14,120 };
    sort(v_1.begin(), v_1.end());
    sort(v_2.begin(), v_2.end());
    sort(v_3.begin(), v_3.end());


    print(v_1);

    cout<<"\n";
    print(v_2);
    cout<<"\n";
    print(v_3);
    cout<<"\n";
    v_1.insert(v_1.end(), v_2.begin(), v_2.end());
    v_1.insert(v_1.end(),v_3.begin(),v_3.end());
    sort(v_1.begin(), v_1.end());

    print(v_1);
    cout<<"\n";
    random_shuffle(v_1.begin(),v_1.end());
    print(v_1);
    return 0;
}
```

Ejercicio 7: Vector - erase
ingresar N, n: valores del vector

x: posicion a eliminar
a,b: rango a eliminar

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT
*/
    vector<int> vector;
   // vector<int>::iterator it;
    int N,n,i=0,x,a,b;
    do{cin>>N;}while(N<1 || N>100000);
     while(i<N){
        cin>>n;
        vector.push_back(n);
        i++;
    }
    cin>>x;
    vector.erase(vector.begin()+x-1);
    cin>>a>>b;
    vector.erase(vector.begin()+a-1,vector.begin()+b-1);
    cout<<vector.size()<<"\n";
    for(int i=0;i<vector.size();i++)
        cout<<vector.at(i)<<" ";
    return 0;
}
```

Ejercicio 8:

Sample Input

```
 8
 1 1 2 2 6 9 9 15
 4
 1
 4
 9
```

15
Sample Output

Yes 1
No 5
Yes 6
Yes 8

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT
*/
    int N,n,Q,Y;
    int j=0;
    bool ban=false;
    vector<int>vector;
    do{
        cin>>N;
    } while(N<1 || N>100000);
    for(int i=0;i<N;i++){
        cin>>n;
        vector.push_back(n);
    }
    sort(vector.begin(),vector.end());
   // for(int i=0;i<vector.size();i++)
     //   cout<<vector.at(i)<<" ";

    do{cin>>Q;}while(Q<1 || Q>100000);
    while(j<Q) {
        cin>>Y;
        for(int i=0;i<vector.size();i++)
        {
            if(Y==vector.at(i)) {cout<<"yes "<<i+1; ban=true;break;}
        }
        if(ban==false){
        for(int i=0;i<vector.size();i++)
        {
            if(Y<vector.at(i))
```

```
            {cout<<"No "<<i+1;break;}
        }
        }
        cout<<"\n";
        ban=false;
        j++;
    }
    return 0;

}
```

Ejercicio 9: Ejercicio de sort

Ingresar el tamaño del vector: 1< N < 100000;
Ingresar los valores al vector enteros
Ordenar el vector
Ingresar el número de consultas 1<Q<10000;
Ingresar el valor a buscar e imprimir la posición del elemento.

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;

int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT
*/
    int N, n, Q, Y;
    int j = 0;
    bool ban = false;
    vector<int>vector;
    do {
        cout << "\nIngresar el numero del vector: ";
        cin >> N;
    } while (N < 1 || N>100000);
   for (int i = 0; i < N; i++) {
       cout << "\nIngresar valor "<<i+1<<": ";
       cin >> n;
        vector.push_back(n);
    }
```

```
   cout << "\n";
    sort(vector.begin(), vector.end());
    for(int i=0;i<vector.size();i++)
      cout<<vector.at(i)<<" ";
    cout << "\nIngresar numero de consultas: ";
    do { cin >> Q; } while (Q < 1 || Q>100000);

    while (j < Q) {
        cout << "\nIngresar valor: ";
        cin >> Y;
        for (int i = 0; i < vector.size(); i++)
        {
            if (Y == vector.at(i)) { cout << "yes " << i + 1; ban = true;
break; }
        }
        if (ban == false) {
                    cout << "No " << Y;
        }
        cout << "\n";
        ban = false;
        j++;
    }
    return 0;

}
```

Ejercicio 10: Ejercicio con set y count

```
#include <iostream>
#include <set>
#include<algorithm>
using namespace std;

int main()
{
    set<int> s1;
    int n,v,y;
    cin>>n;
    cout<<"\nIngresar valores: ";
    for(int i=0;i<n;i++)
        {cin>>v;
        s1.insert(v);
```

```
        }
    cout<<"\nverificar valores: ";
     cin>>y;
    for(int i=0;i<n;i++){

        if(s1.count(y)>=1)
        cout<<"yes "<<i+1;
      //  else
    //    cout<<"no "<<y;
        break;
    }

    return 0;
}
```