Group Activity 02

(3인 혹은 4인으로 팀을 구성하여 아래의 문제를 푼다. 팀 구성은 매 시간마다 달라져도 된다.)

팀원1: _____

팀원2: _____

팀원3: _____

팀원4: _____

다음 프로그램들의 출력은? 컴파일 오류나 실행 오류가 나는 경우에는 이유를 간략히 설명하라.

Program	Output

``cpp
#include <iostream>
#include <vector>
 	
int main() {
    std::vector<int> v = {8, 4, 5, 9};
    v.push_back(6);
    v.push_back(9);
    v[2] = -1;
 	
    for (int n : v)
        std::cout << n << ' ';
    std::cout << '\n';
}
``	

``cpp
#include <iostream>
using namespace std;
 	
int main() {
    vector<int> g1;
    for (int i = 1; i <= 10; i++)
        g1.push_back(i * 10);
 	
    cout << "g1[2] = " << g1[2] << endl;
    cout << "g1.at(4) = " << g1.at(4) << endl;
    cout << "g1.front() = " << g1.front() << endl;
    cout << "g1.back() = " << g1.back() << endl;
    return 0;
}
``	

``cpp
#include <iostream>
#include <vector>
using namespace std;
 	
int main() {
    vector<int> vec1{ 1, 2, 3 };
    vector<int> vec2{ 3, 2, 1, 4 };
    vec1 = vec2;
    for (auto item : vec1)
        cout << item << " ";
    return 0;
}
``	

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

int main() {
    vector<int> g1;
    for (int i = 0; i < 5; i++)
        g1.push_back(i);

    cout << "Size : " << g1.size() << endl;
    cout << "Capacity : " << g1.capacity() << endl;

    g1.resize(10);
    cout << "Size : " << g1.size() << endl;
    for (auto it = g1.begin(); it != g1.end(); it++)
        cout << *it << " ";

    return 0;
}
```

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

int main() {
    vector<int> g1;
    for (int i = 1; i <= 5; i++)
        g1.push_back(i);
    for (auto i = g1.begin(); i != g1.end(); ++i)
        cout << *i << " ";
    for (auto ir = g1.rbegin(); ir != g1.rend(); ++ir)
        cout << *ir << " ";
    return 0;
}
```

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

int main () {
  vector<int> v(5);
  int i=0;

  vector<int>::reverse_iterator rit = v.rbegin();
  for (; rit!= v.rend(); ++rit)
    *rit = ++i;

  for (auto it = v.begin(); it != v.end(); ++it)
    cout << ' ' << *it;
  cout << '\n';
  return 0;
}
```

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

int main() {
    vector<int> v;
    v.assign(5, 10);
    for (int i = 0; i < v.size(); i++)
        cout << v[i] << " ";

    v.push_back(15);
    int n = v.size();
    cout << "The last element is: " << v[n - 1] << endl;
    v.pop_back();

    cout << "The vector elements are: ";
    for (int i = 0; i < v.size(); i++)
        cout << v[i] << " ";
    cout << endl;

    v.insert(v.begin(), 5);
    cout << "The first element is: " << v[0] << endl;

    v.erase(v.begin());
    cout << "The first element is: " << v[0] << endl;

    v.clear();
    cout << "Vector size: " << v.size() << endl;
    return 0;
}
```

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

int main() {
    vector<int> v1 = {1, 2, 3, 4, 5, 6};
    vector<int> v2 = {7, 8, 9};

    for (int i=0; i<=4; i+=2)
        swap(v1[i], v1[i+1]);
    cout << "Vector v1 = ";
    for (int i = 0; i < 6; i++)
        cout << v1[i] << " ";
    cout << endl;

    for (int i = 0; i < 3; i++)
        swap(v1[i], v2[i]);

    cout << "Vector v1 = ";
    for (int i = 0; i < 6; i++)
        cout << v1[i] << " ";
    cout << endl;

    cout << "Vector v2 = ";
    for (int i = 0; i < 3; i++)
        cout << v2[i] << " ";
    return 0;
}
```

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

int main() {
    vector<int> v1, v2;
    v1.push_back(1);
    v1.push_back(2);
    v2.push_back(3);
    v2.push_back(4);
    v2.push_back(5);

    v1.swap(v2);
    for (int i = 0; i < v1.size(); i++)
        cout << v1[i] << " ";
    cout << endl;

    for (int i = 0; i < v2.size(); i++)
        cout << v2[i] << " ";
    cout << endl;
    return 0;
}
```

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

int main() {
  vector<int> v = { 1, 2, 3, 3, 4, 5 };
  int k = 3;
  auto it = find(v.begin(), v.end(), k);
  if (it != v.end())
    v.erase(it);

  for (auto element : v)
    cout << element << " ";
  cout << endl;

  return 0;
}
```

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

int main() {
  vector<int> v{ 1, 2, 3, 4, 5 };
  vector<int>::iterator it1, it2;

  it1 = v.begin();
  it2 = v.end();
  it2--;
  it2--;

  v.erase(it1, it2);
  for (auto it = v.begin(); it != v.end(); ++it)
    cout << *it << " ";
  return 0;
}
```

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

int main()
{
  vector<int> v{ 1, 2, 3, 4, 5, 6, 7, 8, 9 };

  for (auto i = v.begin(); i != v.end(); ++i) {
    if (*i % 2 == 0) {
      i = v.erase(i);
      i--;
    }
  }

  for (auto it = v.begin(); it != v.end(); ++it)
    cout << ' ' << *it;
  return 0;
}
```

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

int main() {
    vector<int> my_vec = { 1, 3, 1, 4, 4, 6, 5, 6, 6 };
    sort(my_vec.begin(), my_vec.end());
    for (int item : my_vec)
        cout << item << " ";
    cout << endl;
    auto it = unique(my_vec.begin(), my_vec.end());
    for (int item : my_vec)
        cout << item << " ";
    cout << endl;
    my_vec.erase(it, my_vec.end());
    for (int item : my_vec)
        cout << item << " ";
    cout << endl;
    return 0;
}
```