

First Studio Session on C++ Algorithms

Part1

1.

```
#include <iostream>
#include <algorithm>
#include <iterator>
#include <vector>
using namespace std;
int main() {
    int arr[] = { -2, 19, 80, -47, 80, 80, -2 };
    int* endd = arr + sizeof(arr) / sizeof(arr[0]);
```

```
ain.cpp -o main
PS C:\Users\KanataLi\OneDrive\文档\23\选修 C++\Algorithm Studio\Algorithm S
-2 19 80 -47 80 80 -2
PS C:\Users\KanataLi\OneDrive\文档\23\选修 C++\Algorithm Studio\Algorithm S
@稀土掘金技术社区
```

2.

```
-2 19 80 -47 80 80 -2
-2 19 80 -47 80 80 -2
```

3.

```
int main() {
    int arr[] = { -2, 19, 80, -47, 80, 80, -2 };
    int* endd = arr + sizeof(arr) / sizeof(arr[0]);
    copy(arr, endd, ostream_iterator<int>(cout, " "));
    cout << endl;
    vector<int> vec;
```

```
选修 C++\Algorithm Studio\Algorithm S
ain.cpp -o main
PS C:\Users\KanataLi\OneDrive\文档\23\选修 C++\Algorithm Studio\Algorithm S
-2 19 80 -47 80 80 -2
-2 19 80 -47 80 80 -2
Sorted array: -47 -2 -2 19 80 80 80
Sorted vector: -47 -2 -2 19 80 80 80
```

4.

```

#include <iostream>
#include <algorithm>
#include <iterator>
#include <vector>
#include <set>
using namespace std;
template <typename Iterator> <T> 提供 IntelliSense 的示例模板参数
inline void findRepeat(Iterator start, Iterator end) {
    //set<typename iterator_traits<Iterator>::value_type> seen;
    while (start != end) {
        //if (seen.count(*start)) {
        //    ++start;
        //    continue;
        //}
        auto repeat = adjacent_find(start, end);
        if (repeat == end) break;
        auto next = find_if(repeat + 1, end, [repeat](const auto& x) { return x != *repeat; });
        cout << *repeat << " ";
        for (auto it = repeat + 1; it != next; ++it) {
            cout << *it << " ";
        }
        cout << endl;
        // seen.insert(*repeat);
        start = next;
    }
}

```

```

copy(arr, arr + sizeof(arr)/sizeof(arr[0]), ostream_iterator<int>
cout << endl;
cout << "Sorted vector: ";
copy(vec.begin(), vec.end(), ostream_iterator<int>(cout, " "));
cout << endl;
findRepeat(begin(arr), end(arr));
findRepeat(vec.begin(), vec.end());
return 0;

```

5.

```
-2 19 80 -47 80 80 -2
-2 19 80 -47 80 80 -2
Sorted array: -47 -2 -2 19 80 80 80
Sorted vector: -47 -2 -2 19 80 80 80
-2 -2
80 80 80
-2 -2
80 80 80
Median: 19
Mean: 29.7143
Mode: 80
Median: 19
Mean: 29.7143
Mode: 80
```

Part2

6.

运行时间	占用内存	得分	操作
0m0.010s	6784kb	100	请点击这

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7.

Pair 1

3 of Clubs

4 of Hearts

8 of Spades

9 of Diamonds

Queen of Diamonds

is High Card

Pair 2

3 of Hearts

5 of Spades

10 of Clubs

Queen of Hearts

Queen of Spades

is One Pair

Pair 3

4 of Spades

5 of Clubs

6 of Hearts

8 of Clubs

Ace of Hearts

is High Card

Pair 4

4 of Diamonds

6 of Diamonds

10 of Diamonds

Jack of Diamonds

Queen of Clubs

is High Card

Pair 5

2 of Hearts

Jack of Spades

King of Diamonds

Ace of Clubs

Ace of Spades

is One Pair