

CS23510

Data Structures

Homework 5

2017/12/05 10:10am

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2017/12/19 23:59pm
(Hard deadline)

Target

- Given some non-negative integers, you need to arrange them such that they represent the largest number
- Because the built-in data cannot store the very large number, the result should be a `std::string`.

Target

- `string MaxArrange(vector<int> arr)`
 - No duplicate integer in arr
 - return the biggest number (string) after arrangement of the integers in arr
 - Hint: compare the result after concatenation of two integers

Ex:

1

3

22

Output:

3221

Target

- Example:

Input:

1

3

22

possible order:

1322

1223

3122

3221

2213

2231

Return the maximum one:

3221

Classes

```
class Sorting{  
public:  
    virtual string MaxArrange(vector<int> arr)=0;  
};  
  
class Implement: public Sorting{  
public:  
    string MaxArrange(vector<int> arr);  
};
```

std::vector

- We use std::vector in this homework
- Here are some often used methods of vector
 - begin: Return iterator to beginning
 - end: Return iterator to end
 - operator[]: Access element like an array
 - push_back: Add element at the end
- Website for more details about **usage of vector**
 - www.cplusplus.com/reference/vector/vector/

Judge

- Use partial online judge to submit your code and test
- <https://acm.cs.nthu.edu.tw/problem/11708/>
- You have to **#include "function.h"**

Submission

- Online Judge: #11708
- Archive your source codes (whole hw5 folder) into a zip file named [studentID]_hw5.zip
 - E.g. 102062999_hw5.zip
- Submit the zip file to ilms system **BEFORE** the deadline