Project 5: Hash Table

Project Deadline: 11:59 PM, Nov. 20, 2017

No Late Submission

1. Sort elements by their frequency and index using Hash Table

Given an unsorted array, sort its elements by their frequency and index. i.e.

-- If two elements have the different frequencies, then the one that has more frequency should be treated as larger than the other.
-- If two elements have the same frequencies, then the one that has less index should be treated as smaller than the other.

For example,

Input: arr = [3, 3, 1, 1, 1, 8, 3, 6, 8, 7, 8]

Output: arr = [3, 3, 3, 1, 1, 1, 8, 8, 8, 6, 7]

std::map is **NOT** allowed to use in this project, because it is implemented based on red-black tree instead of hash table.

Note: You may discuss the general concepts in this project with other students, but you must finish your program on your own. NO SHARING OF CODE OR REPORT IS ALLOWED. Violation of this policy can result in grade penalty.

What to submit

Please submit a .zip file containing (1) a working program written in C++, (2) a report with the pseudo code of you program. Before submit your project, please make sure to test your program (at least) on the given example.