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CSCE 221

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Programming Assignment 4

I certify that I have listed all the sources that I used to develop the solutions/codes to the

submitted work. On my honor as an Aggie, I have neither given nor received any unauthorized

help on this academic work.

Arturo Villalobos Date: April, 13th 2020

Sources
https://en.cppreference.com/w/cpp/container/vector
https://www.youtube.com/watch?v=9K4N6MO_R1Y&t=1s
https://www.geeksforgeeks.org/regex-regular-expression-in-c/

The goal of the assignment was to make and use a hashtable data structure to streamline the grading process for a course.

The data structures used where the hashtable class I made, as well as the standard library containers like tuples, vectors, and lists. The hashtable class was made with the STL containers to make a vector of linked lists, and those linked lists where made up of nodes containing tuples of UINs and scores. Then , using regex is parsed the CSV files outputting a final CSV with scores appended. To test the functionality of the methods from the HashTable class I created individual variables of tuples ,vectors, and lists to see if the table was behaving as designed, inserting and searching for scores using my own UIN as a key.

Conclusion:

The stats from the hashtable and gained form the provided CSV files are what follows:

minimum chain len = 0

maximum chain len = 1

average chain len = 0.17

Program ended with exit code: 0

This is consistent with the with the constant search times expected for the chaining method with and in comparison with a different m values (in this case 17) the stats are still consistent with this expectation.:

minimum chain len = 0

maximum chain len = 2

average chain len = 1

Program ended with exit code: 0