Project is finished, no known bugs, no banned use of STL containers.

Helper functions used only by Movie Database Class. Declared and written in utility.h and utility.cpp.

User class/movie class testing:

Declared new users and movies and tested that they properly returned the same values as the input. Declared pointers and checked that pointers worked accurately.

treemm testing:

inserted a variety of data:

<string, int>

key, value

kunal, 6

apple, 78

zebra, 98

lion, 39

egg, 14

pine, 37

kunal, 8

Used debugger to make sure the tree values correctly self-sorted.

Checked that iterator could be defined. Tested find() on "egg", and ran a while loop to getValues and advance() until isValid() returned false. Did the same for "kunal" to make sure it outputted all values. Made sure iterator returned false when searching "cat".

User Database Testing:

Imported user list. Checked that user could be found from email, and that user contained correct movie watching data. Confirmed that load returns false with incorrect file paths. Verified that incorrect email would return nullptr.

Movie Database Testing:

Imported movie list. Confirmed that load fails when file path was incorrect. Searched movies by actor and cross referenced with movie list. Did same with directors and genres. Confirmed that an invalid actor would return an empty list of movie pointers. Otherwise, checked that movies when gathered contained correct data. Confirmed that case did not matter for inputs.

Recommender Testing:

Constructed recommender object using example movie database and user Carey, confirmed that output was identical. Used on master list, confirming that values were correct for compatibility scores and correct number of movies movies were output in order by score and alphabetically.