Module Five Encryption Activity

As a senior software developer working on a large banking application, our manager has discovered none of the data is encrypted. This is a security issue, and she would like to see how encryption works. We are tasked with implementing XOR-based encryption character by character across a file, loading data from a text file into a string, and saving that string into a text file.

After reading through the Encryption.cpp source code file, it is our task to figure out how to correct the “TODO” list. We are first given a TODO to change “output[i] = source[i]” to implement XOR encryption. The resources we have been using throughout this module include this specific line, so I just used that for this task.

Our next TODO has to do with loading a file into a string. Input streams are used to read data from files, and is implemented by using “std::ifstream” followed by the filename. After writing this code, it is best practice to check if the file is open, otherwise we should display some sort of error. Using an “if” loop, we check if the file is open, and if it is, the first line in the file should be put into its own string (for the student’s name). After this first line is in its own string, we use a “while” loop to get each remaining line in the ifstream file, and append it to a separate string (in our program, “dataLine” is the string for the remaining lines, and “file\_text” holds the student’s name).

The third and final TODO is to save the file. This is done by using “std::ofstream”, which is an output stream used to write data to a file. Using an “if” loop to check for outfile (the file we are saving using filename), we produce the results to the file. I had to search Google for how to correctly get a timestamp in (yyyy-mm-dd) format, as I am unfamiliar with this.

A screenshot of a computer

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