HOMEWORK 1

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1.

We used Repl.it, Visual Studio Code, and Microsoft Visual Studio as the main IDE for programming this assignment.

For running successfully, if you attempt to run it by Repl.it, delete the file code path and just keep the *name* variable in the openFile(), frequencyCalc(), lineCount(), wordCount(), and keep "Cardcatalog.txt" in createFile() functions. If you want to run it on offline IDE such as Visual Studio Code or Microsoft Visual Studio, please change the file path name according to your computer.

The examples below are for Repl.it

```
// ----------------------------!&!----------------------------
// open file function, if fail will create that file and append data into it
bool openFile(fstream &dataFile, string name)
{
    cout << "Opening file..." << endl << endl;
    dataFile.open(name, ios::in | ios::binary);

    // if data fail to open, create and append data to it.
    if (dataFile.fail())
    {
        cout << "Error: File Not Found. Please Try Again." << endl;
        return false;
    }
    return true;
}
```

```
// ----------------------------!&!----------------------------
// create a CardCatalog file to store title, author, number of words&lines, frequency of words, lines and words count
bool createFile()
{
    fstream userfs("CardCatalog.txt", ios::app | ios::binary);

    if (!userfs) {
        cout << "File fail to create." << endl << endl;
        return false;
    } else {

        if (!userfs.eof())
        {
          userfs << "Title: " << user.title << endl;
          userfs << "Author: " << user.author << endl << endl;
          userfs << "Author First Name: " << user.firstName << endl;
          userfs << "Author Last Name: " << user.lastName << endl;
          userfs << "Word count: " << user.wordCount << endl;
          userfs << "Line count: " << user.lineCount << endl << endl;
        }
    }

    userfs.close();
    return true;
}
```

The examples below are for Visual Studio Code.

```cpp
// ----------------------------!&!----------------------------
// open file function, if fail will create that file and append data into it
bool openFile(fstream &dataFile, string name)
{
    cout << "Opening file..." << endl << endl;
    dataFile.open("J:/UC Courses/Spring 2022/Data Structure/HW01/" + name, ios::in | ios::binary);

    // if data fail to open, create and append data to it.
    if (dataFile.fail())
    {
        cout << "Error: File Not Found. Please Try Again." << endl;
        return false;
    }
    return true;
}
```

```cpp
// ----------------------------!&!----------------------------
// create a CardCatalog file to store title, author, number of words&lines, frequency of words, lines and words count
bool createFile()
{
    fstream userfs("J:/UC Courses/Spring 2022/Data Structure/HW01/CardCatalog.txt", ios::app | ios::binary);

    if (!userfs) {
        cout << "File fail to create." << endl << endl;
        return false;
    } else {

        if (!userfs.eof())
        {
          userfs << "Title: " << user.title << endl;
          userfs << "Author: " << user.author << endl << endl;
          userfs << "Author First Name: " << user.firstName << endl;
          userfs << "Author Last Name: " << user.lastName << endl;
          userfs << "Word count: " << user.wordCount << endl;
          userfs << "Line count: " << user.lineCount << endl << endl;
        }
    }

    userfs.close();
    return true;
}
```

2. Contribution:

Jack Vo: struct, openFile(), createFile(), lineCount(), partial of info(), instruction(), debug, format the code outline

Haru Chu: Author's name, frequencyCalc(), wordCount(), info (), switch case

Nicholas Krouse: Debugged the openFile() function, cardCatalog implementation, streamlined structure, debugged wordCount().

3. Grade portion:

- Same point for every member of the group!