

Understanding the Problem

This assignment is asking me to create a program that will prompt for user login and based on user, provide various options. These options include sorting by different aspects and printing to the console or print to a file. If a file doesn't exist, I need to create a file. If a file does exist, I need to append information to the end of it.

Input/Output

The input will consist of an integer number for login, a string that will be checked against the user id's password on file, and various input for option choosing. The input also includes the name of two text files at runtime (./prog text.txt text.txt) The output will be various text to the terminal for options and error handling, and text files or text file edits.

Subtasks

The subtasks I will need to complete consist of creating multiple functions and structures to organize, print, and create files at user request. I will also need to parse through the files to determine when one book ends and another begins and parse through the file of users to match the passwords with IDs.

Program Design

Pseudocode

```
Main(int argc, char** argv){
```

```
    Cout << "Please enter your id: ";
```

```
    get the string, check it is all ints and then check text file for a match
```

```
    Cout << "Please enter your password: ";
```

```
    Get the string in a new variable and compare it to the password for that id
```

```
    If(id isn't found || password isn't correct){
```

```
        Cout << "Username or password is incorrect" << endl;
```

```
        Reprompt for new input.
```

```
        if it's the login has failed three times, exit the program
```

```
    }
```

```
    Print out welcome statement
```

```
    Print out options
```

```
    Cout << "Your choice: ";
```

```
    Get the choice and perform the function associated with a switch statement
```

```
}
```

```
**In a separate file**
```

```
All functions in a separate file that is included in prog.cpp
```

```
Void populate_spell_data(spell *, int, ifstream &){
```

```

    Read from spellbooks.txt
    Read in the title, then the contents of the book
    If(next title is reached){
    Create new array of spells.
    }
}

```

Variables to create:

dynamic arrays of spells, structure to contain attributes of users, structure to contain attributes to spell books, various ints and strings for user interaction with menu.

I need to create multiple files for source code. Function definitions need to be in their own file.

A make file will need to be made that compiles the program in steps.

Decisions:

Need to decide how to determine if a file already exists then append to it or create a new file. I need to decide how to create my list of spells from the text files presented and check user input with a text file of users. I need to determine how to check passwords with the correct indices of what user is trying to access the program.

Functions to handle simple error checking will be extremely useful. Functions to dynamically create, sort, and print data will be made as well and utilized heavily.

Prompt	Input	Output
Please enter your id:	134as	Enter only integers- reprompt
Please enter your id:	12353	Proceeds with program
Please enter your id:	F2645	Third attempt -program exits
Your choice	5	Out of scope, enter 1-4 for options
Your choice	1	Proceeds with option 1
Please enter your password	Sdf t6e46d4sdf	Incorrect username or password- attempt 1, try again
Please provide desired filename:	File_that_exists	Appends information to end of that file
Please provide desired filename:	File_that_doesnt_exist	Creates new file called File_that_doesnt_exist and writes to that