Criterion A: Planning

Defining the Problem

The client Mr. XX loves to buy physical albums, and he always moves the music file from the CD into his mp3 for better music quality. However, as the number of music files increases, he started to find it difficult to correctly name every music file. Some music files are named based on the rule of [composer] + [name of the song], like "Toby Fox - Undertale", and some other songs were named based on [#] + [name of the song], like "71 - Undertale". He wants to rename every music file to let them follow the same rule, as his music player sort his files based on their name, but he has hundreds of songs and it will take him lots of time to rename every single file. Eventually, he asked me to write a program to help him quickly rename a large number of files based on the same rule.

I have the demand to operate the name of large amount of files as well. Recently, I changed the way I name my homework documents to help me easily search, sort, and find my homework on the computer. However, I have tons of old homework that are named in old way, and rename each of them by hand will clearly take a huge amount of time. Therefore, the program should have the ability to add or delete some characters based on the digit. For example, I should be able to delete the first few characters, for example, delete all the x in the name like "xxx Computer Science Homework" to make it looks better, add my name in front or in the middle of the file, or replace "Homework" with "note".

I looked through Mr. XX's music library and found that most of the songs were stored in folders of albums, and the way the files were named vary among different albums. He told me that he probably will do the same procedure whenever he buys new albums, so he wants to order the program to perform a set of operation, like delete the first digit and then add something in front, then numbering the files, and save the way that the program renames the file so he can load the set of procedure he used last time to rename the songs in the new album. Moreover, songs usually contain tag information, which indicates the serial number of the song in the album, and he says it would be great to read the tag information and put the serial number on the files' name.

Rationale for the proposed solution

To address the client's problem, my product will be able to load and rename a large amount of files through simple steps. User should be able to import and export the naming rule, replace some text from the names, and insert or delete some characters in any position.
I will use Java 8 to write the program because Java can easily create a cross-platform efficient app without having to program for different OS, which is helpful as the OS Mr.XX used is different from the OS I used.

Stating success criteria

- This program should have a user-friendly GUI that allows the user to operate files easily
- This program should be able to be used at least on mac and windows.

The program should have the following features
- Replace some text "x" into some text "y" in the file's name
- Delete characters based on digit
- Export the naming rules to a file, and the user can load the rules in the future.
- The user should be able to give the program a series of orders and let the program do altogether. For example, the user can enter a series of rules to operate the file name like "replace x with y -> delete the first 3 characters -> insert XXX"
- Read some tag information of the music files and add it into the file name.

Word count: 514