CS270 - System Software
Lab Assignment #3
Spring 2021

The purpose of this assignment is to give you practice writing shell scripts.

You are to write a shell script that provides an "archiver" function using `tar`. The program should accept a list of files (possibly including wildcards) on the command line, copy the files to a temporary subdirectory, then execute the `tar` command to create a tar file with the files inside it. The name of the temporary subdirectory should be derived by removing the extension from the first file in the list if one exists, and then appending `.tmp` to the resulting file name. Similarly, the name of the tar file should be the subdirectory name, appended with the `.tar` extension.

Some details follow:

- The temporary directory that is created for the command should be deleted after the tar file has been created.

- If a file or directory with the name of the temporary directory already exists, then it should be preserved (by renaming) and then restored after creating the tar file.

- If more than one file with the same name is copied into the temporary directory, your script should prompt the user about what to do - either overwrite the existing file, don't copy the new file, or rename the new file to something else (specified by the user).

- If a file cannot be copied (due to permissions), then your script should print a message that the file cannot be copied.

You can write your shell script using any of the standard UNIX shell languages, but it should execute properly if invoked from `bash`. It should also work correctly if issued from any subdirectory, and the permissions on the file are appropriate for the operation.