Using WinSCP and PuTTY to Complete CS 311 HW1P1

This guide assumes operation on a **Windows** machine. In other words, the host machine containing the relevant working files are in a Windows VM instance or Windows PC from which **WinSCP** and **PuTTY** will be used.

On WinSCP

1. A Login window will be presented for which the following credentials should be provided:
    - **File protocol**: SFTP
    - **Host name**: empress.csusm.edu
    - **Port number**: 22
    - **User name**: the student account name, or the first part of the supplied .edu email. For example, a student with the email crash89@cougars.csusm.edu will have the username crash89.
    - **Password**: the password for that student account
2. Select **[Login]**.
3. Navigate to the directory containing the relevant homework project folder.
4. In the rightmost table of the WinSCP window, double-click the desired subdirectories or parent directory **[..]** to open the desired destination for the project files.
5. Drag the project files into the rightmost table of the WinSCP window.
6. Terminate the connection to the Empress server by selecting **Session** > **Close Session** on the top navigation bar.

On PuTTY

1. In the opening session window, define the following credentials:
    - **Host Name (or IP Address)**: empress.csusm.edu
    - **Port**: 22
    - **Connection type**: SSH
2. Select **[Open]**.
3. Follow each prompt to login:
    - **login as**: <the student account name>
    - **<account>@empress.csusm.edu's password**: <password for the student account. The characters will not be echoed in the console, so type the password and then press **[Enter]**.>

```
login as: king197
king197@empress.csusm.edu's password:
```

4. View the directory and file names with the **ls** command. Directories may be colored in blue, executables in green, and anything else in grey.

```
[king197@empress ~]$ ls
cs311files
```

5. Navigate to the desired directory with the **cd** command. Continue using **ls** and **cd** to list the directories and navigating to the relevant homework project folder.

```
[king197@empress ~]$ ls
cs311files
[king197@empress ~]$ cd cs311files
[king197@empress cs311files]$ ls
02_HW_01_01_Stack  CS311Progs
[king197@empress cs311files]$ cd 02_HW_01_01_Stack
```

6. Use the **ls** command once more to see the files contained in the homework project folder.

```
[king197@empress 02_HW_01_01_Stack]$ ls
client1.cpp  HW01_01.exe     hwlstackdemo.out  @@read-me  stack.h
HW01_01.dev  HW01_01.layout  Makefile.win      stack.cpp  stacktest.cpp
```

7. Create the script to contain the compilation, execution, and output of the provided test file with the **script <file name>** command.

```
[king197@empress 02_HW_01_01_Stack]$ script Test1.txt
Script started, file is Test1.txt
```

8. Compile the provided test file and its required test files using **g++ <.cpp files separated by spaces>**.

```
[king197@empress 02_HW_01_01_Stack]$ g++ stack.cpp stacktest.cpp
```

9. Run the executable that is produced using **./a.out**

```
[king197@empress 02_HW_01_01_Stack]$ ./a.out
```

10. Go through the console program as usual, using the test cases specified in the homework document.
11. Once the program is complete, use the **exit** command to stop writing to the script.

```
MENU: These are your options:

   (1) Push an element
   (2) Display the entire stack
   (3) Pop the top element
   (4) Display the top element
   (5) Check to see if is it empty
   (6) Check to see if is it full
   (7) Clear the entire stack
    Enter ( 0 ) to quit
===>0
Bye bye - ending the stack test program
[king197@empress 02_HW_01_01_Stack]$ exit
exit
Script done, file is Test1.txt
```

12. Delete the executable using the **rm** command.

```
[king197@empress 02_HW_01_01_Stack]$ rm a.out
```

13. Repeat Steps 7 through 12 for producing the output file for the client program. In the case that the client program does not loop (thus requiring multiple executions to test each value), the **./a.out** command will need to be executed each time per value.
14. Terminate the SSH connection by using the **exit** command.

Summary of Console Commands

- `ls` (lists all items in current directory)
- `cd project_folder` (changes current directory to the specified argument)
- `script test.txt` (starts a stream of all console output to the specified argument)
- `g++ test.cpp struct.cpp` (compiles each C++ file argument specified)
- `./a.out` (runs the executable produced by g++)
- `exit` (stops the stream to the script)

Back to WinSCP

1. Follow the first procedure in a similar manner to access the scripts that were produced.