Lab 1 – The Windows Command Shell (DOS/Command Prompt)

1. Directory Management And File Manipulation

In the steps below you will create a simple text file called hello.txt, make two directories, mydir and mysubdir, and copy hello.txt into the subdirectories. Once the lab is completed, you will delete the copies of hello.txt and remove the directories.

Enter the commands exactly as given below.

Make sure you type each Command exactly as presented. Each command terminates with the **Enter** key. Use **Backspace** to delete the last character typed or **Esc** to cancel the command. Hitting **F3** or the **Up** arrow key will recall the last command, which can then be edited.

To start, open the Command Prompt (see Appendix A ... your choice of method). You should see the following prompt (with your username, not actually "username"):

```
C:\Users\username>
```

Note: If you do not see this prompt, then execute the two commands:

```
c:
cd "\Users\your user account name"
```

This will move you to your user directory on the c: drive. (The double quotes are required if the path contains spaces.)

1. Use the dir command to list the contents of the user directory on the c: drive:
   ```
   c:\Users\username> dir
   ```
2. Use the Command Prompt to open Notepad and create a text file called hello.txt.
   ```
   c:\Users\username> start notepad hello.txt
   ```
   A dialog box will ask if you want to create hello.txt. Choose Yes.

   Enter the line:

   Hello World!

   Use File|Save and File|Exit to save your work and quit Notepad.
3. Use the **type** command to display contents of hello.txt.
   ```
   c:\Users\username> type hello.txt
   ```
   You should see:

   Hello World!
4. Use the **md** command to create (make) a new directory called mydir.
   ```
   c:\Users\username> md mydir
   ```
5. Use the **cd** command to change the current directory to mydir.
   ```
   c:\Users\username> cd mydir
   ```
6. Use **dir** to display the contents of mydir. It should contain no files except for "pointers" to itself and its parent.
   ```
   c:\Users\username\mydir> dir
   ```
7. Use the **copy** command to copy the file hello.txt in the user directory to mydir. The target name defaults to hello.txt.
   ```
   c:\Users\username\mydir> copy c:\Users\username\hello.txt
   ```
8. Use **dir** to display the contents of mydir. You should see hello.txt listed.
   ```
   c:\Users\username\mydir> dir
   ```

9. Use **md** to create (make) a subdirectory for mydir called mysubdir.
```
c:\Users\username\mydir> md mysubdir
```
10. Use **cd** to change the current directory to mysubdir.
```
c:\Users\username\mydir> cd mysubdir
```
11. Copy hello.txt to mysubdir. Use the mydir directory copy of hello.txt.
```
c:\Users\username\mydir\mysubdir> copy
c:\Users\username\mydir\hello.txt
```
Alternately use .. (two dots) to refer to mysubdir parent directory:
```
c:\Users\username\mydir\mysubdir> copy ..\hello.txt
```
12. Make a second copy of hello.txt but call it hello1.txt
```
c:\Users\username\mydir\mysubdir> copy hello.txt hello1.txt
```
13. Use the **rename** command to rename hello.txt to hello2.txt.
```
c:\Users\username\mydir\mysubdir> rename hello.txt hello2.txt
```
14. Check your work—display the contents of mysubdir. You should see two files: hello1.txt and hello2.txt
```
c:\Users\username\mydir\mysubdir> dir
```
15. Check that the content of hello2.txt has not changed by displaying it.
```
c:\Users\username\mydir\mysubdir> type hello2.txt
```
16. Using a wildcard to **del**ete all files in mysubdir. Be careful when using them. Using wildcards are dangerous so here is the command, **but don't use it yet**.
```
c:\Users\username\mydir\mysubdir> del *.*
```
Instead use a safer wildcard to delete all files with a .txt extension.
```
c:\Users\username\mydir\mysubdir> del *.txt
```
Use the **dir** command to check that both files are gone.
```
c:\Users\username\mydir\mysubdir> dir
```

2. Redirects, Pipes, and Batch Files

Now that you have some experience in the Command Prompt environment, this part of the lab requires you to work more independently. Use the Help command (`/?`), internet research, and the list of commands above to accomplish the following.

First make sure you have installed 7-Zip:

- Run the 7-Zip installer **7z920** that was included in the zip file download. Do not change the location it is installing to. Then Copy the 7-zip executable file (**7z.exe**) to c:\Users\username\mydir.
- Note: entering **7z** at the command line will show the command syntax and switches for 7-zip.

All files created in this part of the lab should be saved in c:\Users\username\mydir.

1. Use the **dir** command to view the c:\windows directory.
2. Use the redirect operator (see Appendix B) to send the output of **dir** of the c:\windows directory to a text file named dir_out.txt.
3. Use the **sort** command to sort the contents of dir_out.txt in reverse order and redirect the output to a new file called dir_rev_sorted1.txt.
4. Use the pipe operator to sort the output of **dir** with a single line. (I.e., do not put the output of **dir** into a file and then sort the file, instead use the pipe to send the output directly into **sort**). Redirect the final sorted output to the file dir_rev_sorted2.txt.
5. Write a **For** loop that zips all text files in you user directory into a single zip file named your_name_all_ziped_txt.zip using the 7-zip program provided in the download. Hint: Remember there is an example of a **For** loop in Appendix A (01a-using-windows-shell.pdf).

6. Make a batch file named Batch_zip.bat that you can call and pass variables to. The batch file must receive these variables from the command line. Add the **For** loop from the previous step to this batch file, and modify it to make use of the command line variables. Batch_zip.bat will zip all text file from a specified directory and archive it under a specified name. The directory and name are the variables you will pass to the batch file. Use your user directory and the name your_name_batch_zip.zip.
7. Submit both zip files and the batch file on FSO. You will need to zip those 3 files into 1 zip file.

3. Clean Up Files and Directory Removal

1. Return to the mydir directory.
   ```
   c:\Users\username\mydir
   ```
   Alternately, you could have typed `cd ..`
2. Use the **dir** command to view the contents of the mydir directory.
   ```
   c:\Users\username\mydir> dir
   ```
3. Use the **rd** command to remove the mysubdir directory.
   ```
   c:\Users\username\mydir> rd mysubdir
   ```
4. Use the **dir** command to check that the mysubdir subdirectory is gone.
   ```
   c:\Users\username\mydir> dir
   ```
5. Return to the your user directory.
   ```
   c:\Users\username\mydir> cd ..
   ```
6. Delete the mydir copy of hello.txt.
   ```
   c:\Users\username> del mydir\hello.txt
   ```
7. Then check that it's gone.
   ```
   c:\Users\username> dir mydir
   ```
   But the copy in c:\Users\username is still there.
   ```
   c:\Users\username> dir
   ```
8. Remove the mydir from your user directory.
   ```
   c:\Users\username> rd mydir
   ```
9. And delete hello.txt from your user directory.
   ```
   c:\Users\username> del hello.txt
   ```
10. Type:
    ```
    c:\Users\username> exit
    ```

This closes the Command Prompt window and ends Lab 1.

4. Grading Rubric

Objective	Points
All text files submitted and correct	30 Points
Zip file(s) correctly created and submitted	40 Points
Batch file submitted and correct	30 Points