|  |  | **Information Sciences and Technologies**  **Golisano College of Computing and Information Sciences** |
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HW 05: Working with Linux/Unix

Name: Klara Makek

# Overview

Linus and Unix are not the most obvious or intuitive operating systems in the world. The *best* way to learn it is by actually using it. This homework activities use many of the most common Linux/Unix commands. Points are awarded for the correct response to the repetitive tasks. Fill in the signature above, complete the question set and upload this document to the assignment dropbox before the due date.

# Getting Started

1. Open the **SSH client** on Windows (use **cmd** with **ssh** or alternatively use **Putty** or **MobaXterm**, or **Terminal** on MacOS).
2. If you are using ssh, at the prompt, type the command: **ssh *yourid*@solace.ist.rit.edu** then press <enter>. This will connect you as a terminal to the server.
3. When prompted, enter your password followed by <enter>. Unlike a GUI system, *nothing* is displayed while you type the password. The cursor will not move while you are typing. But if successful, you be logged into your home directory.
4. Enter the command that tells you what your current working directory is:  
     
   What command was used? pwd  
     
   What was the result? /home/MAIN/km9654

# Basics

1. Step A.3 above places the user in his/her login or home directory. Display a list of the contents in that directory. What command was used?  
     
   ls -l
2. In the login directory, create a new directory named ***mydir***. What command was used?  
     
   mkdir mydir
3. Change to the directory just created. What command was used?  
     
   w mydir
4. What are the contents of this directory? What command was used?  
     
   ls -ld mydir
5. Now, change back to the home (login) directory. What command did was used?  
     
   pwd
6. Delete the ***mydir*** directory. What command did you use?  
     
   rm -r mydir

# More Commands – Less Prompting!

1. Create a directory named ***temp*** in the home directory. Make ***temp*** the current working directory. What command(s) was/were used?  
     
   mkdir temp -> cd temp
2. Within ***temp***, create a directory named ***images***. Make ***images*** the current working directory. What command(s) was/were used?  
     
   mkdir images -> cd images
3. Within ***images***, create TWO directories: ***jpeg*** and ***gif***. What command(s) was/were used?  
     
   mkdir jpeg mkdir gif
4. List the contents of the ***images*** directory. What command(s) was/were used? What is in the directory?  
     
   ls -l -> jpeg and gif directory
5. What is the full path to the ***images*** directory (starting at root)? What command(s) was/were used to determine this?  
     
   pwd -> /home/MAIN/km9654/temp/images
6. Now, “jump” to the home directory using only one command. What command was used?  
     
   cd
7. Create a directory named ***png*** in the home directory. What command(s) was/were used?  
     
   mkdir png
8. The ***png*** directory is in the wrong place. It should be in the ***images*** directory, not the home directory. Correct this problem. There are many ways to do this. Write the command(s) used below.  
     
   mv png temp/images
9. Confirm that the ***images*** directory now has three (3) directories in it. What command(s) was/were used?  
     
   ls -l
10. Unix is Fun! (highlight one) YES NO
11. “Jump” back to the home directory. Using a single command, change to the ***png*** directory just created using absolute reference (pathname). What command was used?  
      
    cd temp/images/png

# Creating Simple Files

1. Change to **home/temp** directory. Start an **editor** on the system, use: **nano** or **pico** or **Vi**  
   Pico, nano, and vi are simple text editors usually available in Linux/Unix. If it is unclear how to use them properly, search the Internet for some basic instructions.

*On macOS there may be an error at this point, indicating that pico “can’t recognize the terminal.” To fix this, in Terminal: Terminal (menu) > Preferences… > Advanced (tab) > Declare terminal as… >* ***xterm*** *or* ***vt100.*** *After changing, close the Terminal window and open a new one (Terminal > New > Basic)*

Type in some text and then save the file with the name ***example***. (Look at the commands at the bottom of the screen or search the web for help.) What command was used to save the file?   
  
nano example -> ^X(exit)->add type of the file-> save (Y) -> example.txt

1. Exit the editor. The current working directory should still be ***temp***. List the contents of this directory in short form. Then list the directory in long form. What commands were used?  
     
   ls - comment for short form, ls-l - for long form
2. When the ***temp*** directory was listed, there should have been a directory named ***images*** and a file named ***example***. In the long listing format, how can a user determine what is a file and what is a directory?  
     
   Example.txt has -rw-r--r--. prefix, and “-” means it's a file. Images directory has drwxr-xr-x., and “d” means it's a directory.

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| **Criteria** |
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| A4. Cmd to determine current working directory and output |
| B1. Cmd to determine directory contents |
| B2. Cmd to create directory |
| B3. Cmd to change directory location |
| B4. New location's contents described |
| B5. Cmd to return to home (login) directory. |
| B6. Cmd to delete **mydir** |
| C1. Cmd to create **temp** |
| C2. Cmds to create **images** inside **temp** |
| C3. Cmds to create directories **jpeg, gif** |
| C4. Cmds to list contents of **images** |
| C5. Cmds to list full path to **images** from root |
| C6. Cmd to "jump" to home directory |
| C7&8. Cmds to create **png** directory and relocate it inside **images** |
| C9. Confirmation **images** contents are correct |
| C11. Absolute reference directory change cmd |
| D. Successful creation of text file **example** |
| Name given on first and last page of this document. |