Assignment 1

UNIX Command Usage Comprehensive Assignment

Title: Mastering UNIX Commands: A Comprehensive Exploration

Objective: This comprehensive assignment is designed to empower CSE320 students with a deep understanding and proficiency in using UNIX commands for file manipulation, directory navigation, system information retrieval, and process management.

Instructions:

Part 1: Directory Navigation and File Manipulation

1. Begin by opening the terminal and executing the pwd command to identify your current directory (present working directory).

2. Navigate to your home directory using the cd command.

3. Create a new directory named "Assignment1" using the mkdir command and navigate into it.

4. Inside the "Assignment1" directory, create three subdirectories: “MyDoc," "MyAssignment," and "MyCode" using the mkdir command.

5. Create any sample text file, and a c source code file (you can create your own or download from internet) from your local computer to your Linux machine.

6. Move these downloaded files into their respective subdirectories using the mv command.

7. Display the contents of the "Documents" directory using the ls command and its various options like ls -l and ls -a. MyDoc?

8. Rename the downloaded text, image, and code files to “text.txt” and “code.c”, respectively, using the mv command.

Part 2: File Manipulation and System Management

1. Navigate to the "Code" directory using the cd command.

2. Use the touch command to create a new text file named “<your last name>.txt.” e.g., yang.txt

3. Employ the echo command or use vi editor to add some meaningful text content to the file.

4. Display the contents of the file using the cat command.

5. Navigate back to the "Assignment1" directory using the cd command.

6. Create a compressed archive named “assignment1_1_<your full name>.tar.gz” that includes both the "Documents" and "Code" directories using the tar command. e.g., assignment1_1_yoonseokyang.tar.gz MyDoc?

7. Move the compressed archive to your home directory using the mv command.

8. Determine the amount of disk space used by the compressed archive using the du command.

9. Upload the file to your local computer using the file transfer command/ program such as sftp.

Part 3: System Information and Process Management

1. Use the uname command to display comprehensive information about your operating system, including the kernel version, hardware architecture, and more. linux #21~22.04.1-Ubuntu x86_64

2. Display a list of currently running processes using the ps command, experimenting with options like ps aux to show all processes.

3. Identify your user ID and group using the id command. uid = 1004(hjkwak) gid = 1004(hjkwak)

4. Check your processes using the top command.

5. Launch this command, “top > top.txt &”

6. Check pid of the top process using ps -al command.

7. Kill the top process by employing the kill command.

8. Move your top.txt to your home directory and rename it as assignment1_2_<your full name>_top.txt. e.g., assignment1_2_yoonseokyang_top.txt

9. Upload the file to your local computer using the file transfer command/ program such as sftp.

Part 4: Reflection and Documentation

Reflect on your journey through this assignment by creating a reflective document. Describe the challenges you faced, the most intriguing command you learned, and how you envision applying UNIX commands in your future projects.

Include a section that outlines the potential risks associated with using powerful UNIX commands and strategies to mitigate these risks.

Document each step of the assignment, along with the corresponding command, its options, and a brief description of its purpose. Use this documentation to compile a detailed report.

Submission:

Compile all your work, documentation, screenshots, and reflective document into a comprehensive report named “assignment1_3_<your full name>_report.pdf.” e.g., assignment1_3_yoonseokyang_report.pdf

Compress the three files, “assignment1_1_<your full name>.tar.gz”, “assignment1_2_<your full name>_top.txt”, “assignment1_3_<your full name>_report.pdf” as a zip file, assignment1_<your full name>.zip, and submit the zip file through Brightspace.

Note: The intention of this assignment is to provide you with an in-depth understanding of UNIX commands, their utility, and their potential. Approach each task with caution and double-check your commands before executing them to avoid unintended consequences. This assignment is a platform for learning, so take the opportunity to explore and experiment responsibly. Please perform this assignment by yourself and don’t copy any solutions from your friends or online.