Linux Shell Lab Tasks

Department of Computer Science and Engineering

Part A: Basic Commands

1. Print your name and student ID, and current date.

2. Display the message `Linux Shell` using a tab space between the words.

3. Print the following output exactly as shown using one command:

   ```
   Hello
   Linux
   Users
   ```

4. Display the value of the `PATH` environment variable.

Part B: Working with Directories

1. Change to the `/etc` directory and print the current directory, then return to your home directory.

2. Create the directory hierarchy `lab2/linux/files` using one command.

3. From inside `files`, move back to the root directory using a relative path.

4. Use directory stack commands to navigate: $\rightarrow /var \rightarrow /usr \rightarrow /bin \rightarrow /lib$, then return to the home directory.

Part C: File Listing and Inspection

1. List all files in the current directory sorted by modification time.

2. Display only hidden files from your home directory.

3. List the contents of `/bin` showing file sizes in human-readable format.

4. List all files ending with `.d` inside `/etc`.

Part D: File Manipulation

1. Create empty files named `file1.log`, `file2.log`, and `file3.log`.

2. Create a directory named `logs` and move all `.log` files into it.

3. Copy the directory `logs` to `logs_backup`.

4. Rename `file1.log` to `system.log`.

5. Delete `file3.log` with confirmation.

6. Remove the directory `logs_backup` recursively.

Part E: Permissions and Access Control

1. Create a file `script.sh` and grant execute permission to the owner only.

2. Set permissions on `report.txt` so that the owner has full access, group has read-only access, and others have no access.

3. Recursively change the ownership of directory `assignment/` to user `student`.

Part F: Viewing and Searching

1. Display the first 8 lines of `/etc/group`.

2. Display the last 5 lines of `/etc/group`.

3. Count the number of users listed in `/etc/passwd`.

4. Search for all entries containing the word `"nologin"` in `/etc/passwd`.

5. Find all files with extension `.conf` inside `/etc` that were modified in the last 7 days.

Part G: Input/Output Redirection

1. Redirect the output of `whoami` to a file named `users.txt`.

2. Append the output of `uptime` to `system.log`.

3. Using a pipeline, count how many lines are present in `/etc/passwd`.

Part H: Text Editors

1. Open `/etc/hosts` in `vim` and move to the last line.

2. Create a file named `program.c` and write a basic `main()` function.

3. Create a file named `todo.txt` and insert at least four lines of text.

Submission Instructions

- Submit a PDF containing the executed commands.

- Attach screenshots of outputs.

- Rename the file to your ID.