

Practice Exercises - While Loops

Exercise 1:

Write a shell script that loops through the `/etc/passwd` file one line at a time. Prepend each line with a line number followed by a colon and then a space.

Example output:

```
1: root:x:0:0:root:/root:/bin/bash
2: daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
3: bin:x:2:2:bin:/bin:/usr/sbin/nologin
4: sys:x:3:3:sys:/dev:/usr/sbin/nologin
```

Exercise 2:

Write a shell script that asks the user for the number of lines they would like to display from the `/etc/passwd` file and display those lines.

Example output:

```
How many lines of /etc/passwd would you like to see? 3
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
```

Exercise 3:

Write a shell script that allows a user to select an action from the menu. The actions are to show the disk usage, show the uptime on the system, and show the users that are logged into the system. Tell the user to enter **q** to quit. Display "Goodbye!" just before the script exits.

If the user enters anything other than **1**, **2**, **3**, or **q**, tell them that it is an "Invalid option."

You can show the disk usage by using the **df** command. To show the uptime, use the **uptime** command. To show the users logged into the system, use the **who** command. Print a blank line after the output of each command.

Example output:

```
1. Show disk usage.
2. Show system uptime.
3. Show the users logged into the system.
What would you like to do? (Enter q to quit.) 2
 14:59:08 up 3 days,  7:36,  7 users,  load average: 0.13, 0.22, 0.33
```

```
1. Show disk usage.
2. Show system uptime.
3. Show the users logged into the system.
What would you like to do? (Enter q to quit.) 4
Invalid option.
```

```
1. Show disk usage.
2. Show system uptime.
3. Show the users logged into the system.
What would you like to do? (Enter q to quit.) q
Goodbye!
```