

Writing and Executing Shell Scripts I/O Variables and Operators (Part B)

Task#1

```
1 #!/bin/bash
2 echo "Enter the grades of subject 1"
3 read sub1
4 echo "Enter the grades of subject 2"
5 read sub2
6 echo "Enter the grades of subject 3"
7 read sub3
8
9 four=90
10 three=80
11 two=80
12
13 if [ $sub1 -gt $four ]; then
14 echo "You've got 4 GPA -> Sub1"
15 elif [ $sub1 -gt $three ]; then
16 echo "You've got 3 GPA -> Sub1"
17 elif [ $sub1 -gt $two ]; then
18 echo "Y0u've got 2 GPA -> Sub1"
19 fi
20 if [ $sub2 -gt $four ]; then
21 echo "You've got 4 GPA -> Sub2"
22 elif [ $sub2 -gt $three ]; then
23 echo "You've got 3 GPA -> Sub2"
24 elif [ $sub2 -gt $two ]; then
25 echo "Y0u've got 2 GPA -> Sub2"
26 fi
27 if [ $sub3 -gt $four ]; then
```

```
27 if [ $sub3 -gt $four ]; then
28 echo "You've got 4 GPA -> Sub3"
29 elif [ $sub3 -gt $three ]; then
30 echo "You've got 3 GPA -> Sub3"
31 else
32 echo "Y0u've got 2 GPA -> Sub3"
33 fi
```

```
sam@sam-VirtualBox:~/Desktop$ gedit scripts
sam@sam-VirtualBox:~/Desktop$ sudo chmod 777 scripts
[sudo] password for sam:
sam@sam-VirtualBox:~/Desktop$ sudo mv scripts /usr/bin
sam@sam-VirtualBox:~/Desktop$ scripts
Enter the grades of subject 1
99
Enter the grades of subject 2
88
Enter the grades of subject 3
77
You've got 4 GPA -> Sub1
You've got 3 GPA -> Sub2
YOur've got 2 GPA -> Sub3
sam@sam-VirtualBox:~/Desktop$
```

Task#2

```
1#!/bin/bash
2
3while true; do
4    # Display menu
5    echo "A) Display hostname and uptime"
6    echo "B) Display disk and memory information"
7    echo "C) Display home space utilization"
8    echo "Q) Quit"
9
10   # Read user input
11   read -p "Enter your selection: " input
12
13   # Execute selected option
14   case $input in
15       A)
16           # Display hostname and uptime
17           hostname
18           uptime
19           ;;
20       B)
21           # Display disk and memory information
22           df -h
23           free -h
24           ;;
25       C)
26           # Display home space utilization
27           du -sh $HOME
```

```

28     ;;
29     Q)
30     # Quit program
31     break
32     ;;
33     *)
34     # Invalid input
35     echo "Invalid selection"
36     ;;
37 esac
38
39 # Add blank line
40 echo
41 done
42

```

```

Enter your choice
Press 1 -> Host name and uptime
Press 2 -> Disk and Memory
Press 3 -> Space Utlization
Press 4 -> Quit
1
/usr/bin/scripts: line 21: syntax error: unexpected end of file
sam@sam-VirtualBox:~/Desktop$ gedit scripts
sam@sam-VirtualBox:~/Desktop$ sudo chmod 777 scripts
sam@sam-VirtualBox:~/Desktop$ sudo mv scripts /usr/bin
sam@sam-VirtualBox:~/Desktop$ scripts
A) Display hostname and uptime
B) Display disk and memory information
C) Display home space utilization
Q) Quit
Enter your selection: A
sam-VirtualBox
 12:25:22 up 24 min,  1 user,  load average: 0.31, 0.57, 0.47

A) Display hostname and uptime
B) Display disk and memory information
C) Display home space utilization
Q) Quit
Enter your selection: B

```

Task#3

```
1#!/bin/bash
2
3# Check if filename is provided
4if [ $# -eq 0 ]; then
5    echo "Error: No filename provided"
6    exit 1
7fi
8
9# Check if file exists
10if [ ! -f $1 ]; then
11    echo "Error: File not found"
12    exit 1
13fi
14
15# Initialize counters
16vowels=0
17spaces=0
18characters=0
19lines=0
20symbols=0
21
22# Read file and count characters
23while IFS= read -r -n1 char; do
24    # Increment character counter
25    characters=$((characters+1))
26
27    # Check if character is a vowel
28    if [[ $char =~ [aeiouAEIOU] ]]; then
29        vowels=$((vowels+1))
30    fi
31
32    # Check if character is a space
33    if [[ $char == " " ]]; then
34        spaces=$((spaces+1))
35    fi
36
37    # Check if character is a symbol
38    if [[ ! $char =~ [a-zA-Z0-9] ]]; then
39        symbols=$((symbols+1))
40    fi
41done < "$1"
42
43# Count lines
44lines=$(wc -l < "$1")
45
46# Print results
47echo "Vowels: $vowels"
48echo "Spaces: $spaces"
49echo "Characters: $characters"
50echo "Lines: $lines"
51echo "Symbols: $symbols"
52
```



```
sam@sam-VirtualBox:~/Desktop$ sudo chmod 777 scripts
sam@sam-VirtualBox:~/Desktop$ sudo mv scripts /usr/bin
sam@sam-VirtualBox:~/Desktop$ scripts filename.txt
Vowels: 7
Spaces: 1
Characters: 24
Lines: 5
Symbols: 9
sam@sam-VirtualBox:~/Desktop$
```