Operating System Lab
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Lab 11 Task
Name : Tooba Baqai
Sap Id: 46489

Lab Instructor:

Kausar Nasreen Khattak

Email:

kausar.nasreen@riphah.edu.pk

Lab Task

Note: Include screenshots, where required to illustrate your explanation.

Q1. How do you create a basic `for` loop in a shell script to iterate over a list of numbers from 1 to 5?

```
ubuntu@ubuntu:~$ nano loop_script.sh
ubuntu@ubuntu:~$ chmod 777 loop_script.sh
ubuntu@ubuntu:~$ ./loop_script
bash: ./loop_script: No such file or directory
ubuntu@ubuntu:~$ ./loop_script.sh
Number: 1
Number: 2
Number: 3
Number: 4
Number: 5
ubuntu@ubuntu:~$
```

Q2. What is the syntax for a `while` loop that counts from 1 to 10 and prints each number?

```
ubuntu@ubuntu:~$ nano count_script.sh
ubuntu@ubuntu:~$ chmod 777 count_script.sh
ubuntu@ubuntu:~$ ./count_script.sh
Number: 1
Number: 2
Number: 3
Number: 4
Number: 5
Number: 6
Number: 7
Number: 8
Number: 9
Number: 10
ubuntu@ubuntu:~$
```

Q3. How would you write a nested loop in shell scripting to print a multiplication table from 1 to 3?

```
ubuntu@ubuntu:~$ nano muti_table.sh
ubuntu@ubuntu:~$ chmod 777 multi_table.sh
chmod: cannot access 'multi_table.sh': No such file or directory
ubuntu@ubuntu:~$ chmod 777 muti_table.sh
ubuntu@ubuntu:~$ ./muti_table.sh
1 * 1 = 1
1 * 2 = 2
1 * 3 = 3

2 * 1 = 2
2 * 2 = 4
2 * 3 = 6

3 * 1 = 3
3 * 2 = 6
3 * 3 = 9

ubuntu@ubuntu:~$
```

Q4: Write a `for-in` loop that iterates over the items in an array named `fruits` containing `apple`, `banana`, and `cherry`.

```
ubuntu@ubuntu:~$ nano fruit.sh
ubuntu@ubuntu:~$ chmod 777 fruit.sh
ubuntu@ubuntu:~$ ./fruit.sh
apple
banana
cherry
ubuntu@ubuntu:~$
```

Q5: Write a `while` loop that reads user input until the user types "exit".

```
ubuntu@ubuntu:~$ input_loop.sh
input_loop.sh: command not found
ubuntu@ubuntu:~$ nano input_loop.sh
ubuntu@ubuntu:~$ chmod 777 input_loop.sh
ubuntu@ubuntu:~$ ./input_loop.sh
Enter something (type 'exit' to quit): hi
You entered: hi
Enter something (type 'exit' to quit): exit
You entered: exit
ubuntu@ubuntu:~$
```