

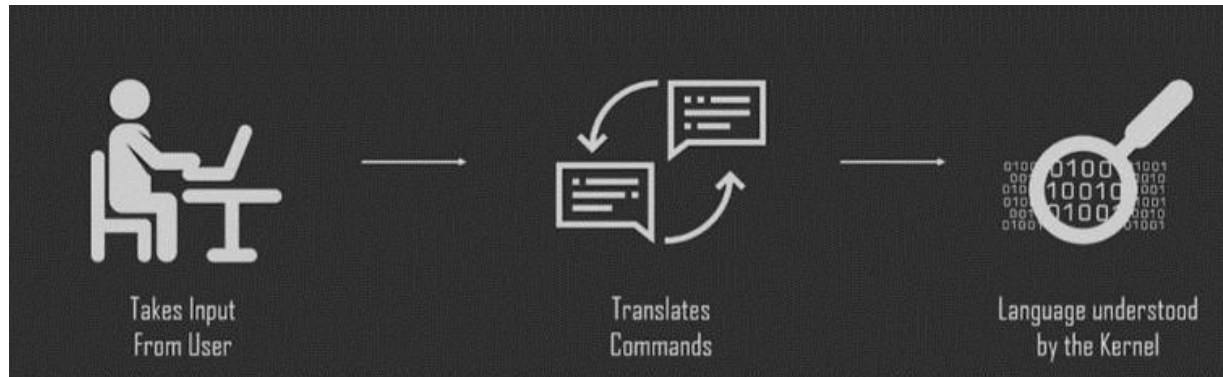
# Lab 3: Linux Basic Scripting - 1

## Operating Systems Lab (20CP207P)

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### Introduction:

The shell is a command line interpreter. It translates the commands entered by the user and converts them into a language understood by the kernel. Kernel manages resource of Linux O/S. Kernel decides who will use this resource, for how long and when. It runs your programs (or set up to execute binary files).



Computer understand the language of 0's and 1's called binary language, In early days of computing, instruction are provided using binary language, which is difficult for all of us, to read and write. So in O/s there is special program called Shell. Shell accepts your instruction or commands in English and translate it into computers native binary language.

A shell script is a computer program designed to be run by the Unix/Linux shell which could be one of the following:

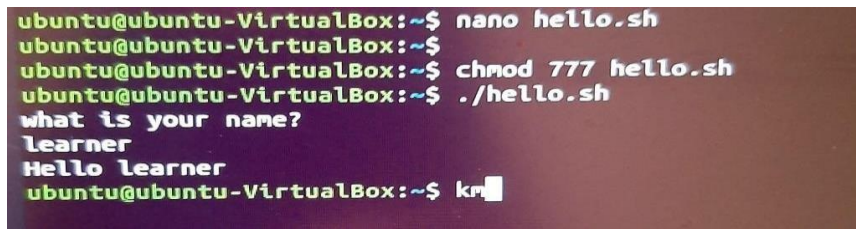
- The Bourne Shell
- The C Shell
- The Korn Shell

- The GNU Bourne-Again Shell

Shell is an environment in which we can run our commands, programs, and shell scripts. There are different flavors of a shell, just as there are different flavors of operating systems. Each flavor of shell has its own

**1) Write a shell script to print your name.**

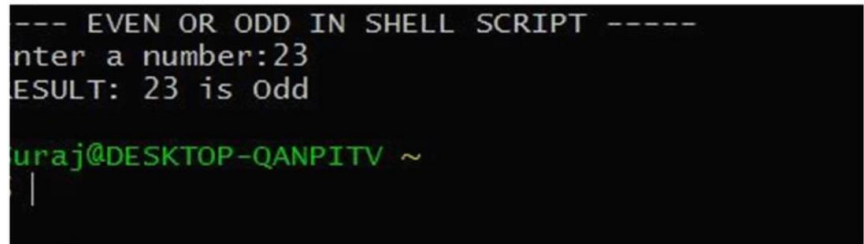
```
echo "what is
your name?"
read PERSON
echo "Hello $PERSON"
```



```
ubuntu@ubuntu-VirtualBox:~$ nano hello.sh
ubuntu@ubuntu-VirtualBox:~$
ubuntu@ubuntu-VirtualBox:~$ chmod 777 hello.sh
ubuntu@ubuntu-VirtualBox:~$ ./hello.sh
what is your name?
learner
Hello learner
ubuntu@ubuntu-VirtualBox:~$ kn
```

**2) Write a shell script to find whether a number is even or odd.**

**Sample Output:**

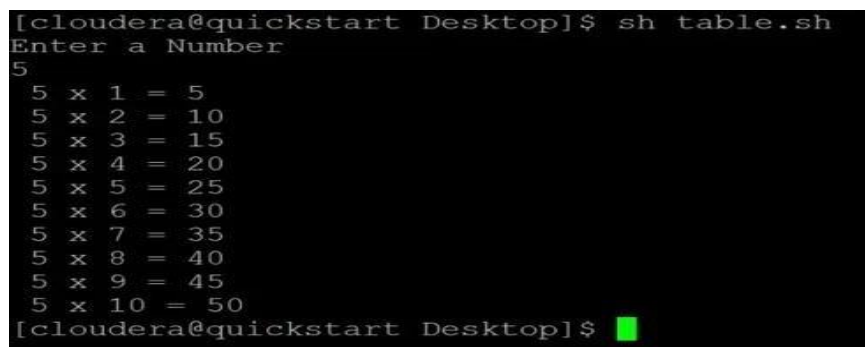


```
--- EVEN OR ODD IN SHELL SCRIPT ----
Enter a number:23
RESULT: 23 is Odd

uraj@DESKTOP-QANPITV ~
|
```

**3) Write a script to print a table of a given number.**

**Sample Output:**



```
[cloudera@quickstart Desktop]$ sh table.sh
Enter a Number
5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
[cloudera@quickstart Desktop]$
```

- 4) Write a shell script to check whether a given no. is prime or not.

Sample Output:

```
ubuntu@ubuntu-VirtualBox:~$ nano 4.sh
ubuntu@ubuntu-VirtualBox:~$
ubuntu@ubuntu-VirtualBox:~$ chmod 777 4.sh
ubuntu@ubuntu-VirtualBox:~$ ./4.sh
enter a number
79
is a prime number.
ubuntu@ubuntu-VirtualBox:~$
```

- 5) Write a shell script to find the simple interest.

Sample Output:

```
ubuntu@ubuntu-VirtualBox:~$ nano .i.sh
ubuntu@ubuntu-VirtualBox:~$ chmod 777 .i.sh
ubuntu@ubuntu-VirtualBox:~$ ./i.sh
Enter the principle value:
2000
Enter the rate of interest:
4
Enter the time period:
10
The simple interest is
800
ubuntu@ubuntu-VirtualBox:~$
```

- 6) Write a shell script to find sum of “n” numbers.

Sample Output:

```
ubuntu@ubuntu-VirtualBox:~$ nano j.sh
ubuntu@ubuntu-VirtualBox:~$ chmod 777 j.sh
ubuntu@ubuntu-VirtualBox:~$ ./j.sh
Enter Size(N)
6
Enter Numbers
1
2
3
4
78
6
94
ubuntu@ubuntu-VirtualBox:~$
```

- 7) Write a shell script to find the largest number of three numbers.

Sample Output:

```
ubuntu@ubuntu-VirtualBox:~$ nano p.sh
ubuntu@ubuntu-VirtualBox:~$ chmod 777 p.sh
ubuntu@ubuntu-VirtualBox:~$ ./p.sh
Enter Num1
1
Enter Num2
34
Enter Num3
56
56
```

**Submission Instruction:**

1. Design, Develop, and execute each script using terminal and suitable editor. For each script, provide the corresponding code and the screenshot of the output.
2. Prepare a PDF file, Print it and make a file (Hard copy).
3. The assignment of the previous lab will be verified in the very next lab. Therefore, it is mandatory to bring the file in each lab.
4. Late submissions have inherent penalty and it will be reflected in your internal assessment.
5. Any form of plagiarism/copying from peer or internet sources will not be compromised.