Lab 4: Linux Basic Scripting - 2
Operating Systems Lab (20CP207P)

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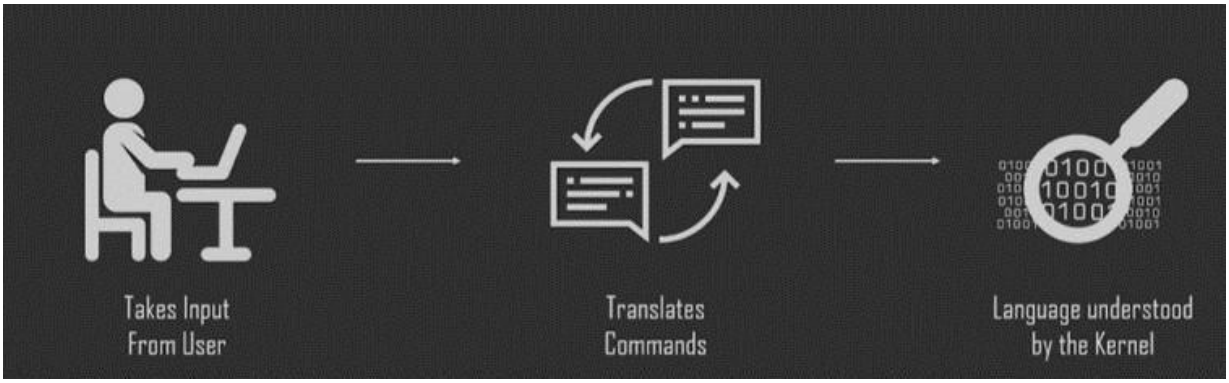
Introduction:

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.

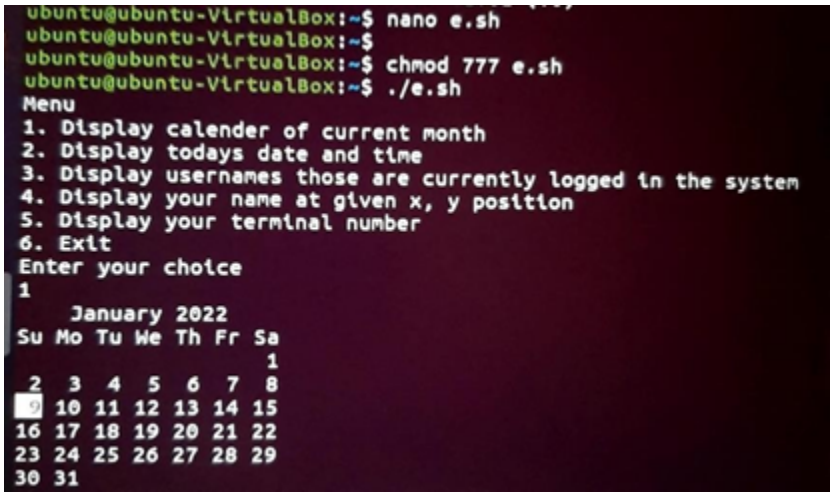
A shell script is a computer program designed to be run by the Unix/Linux shell which could be one of the following:

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

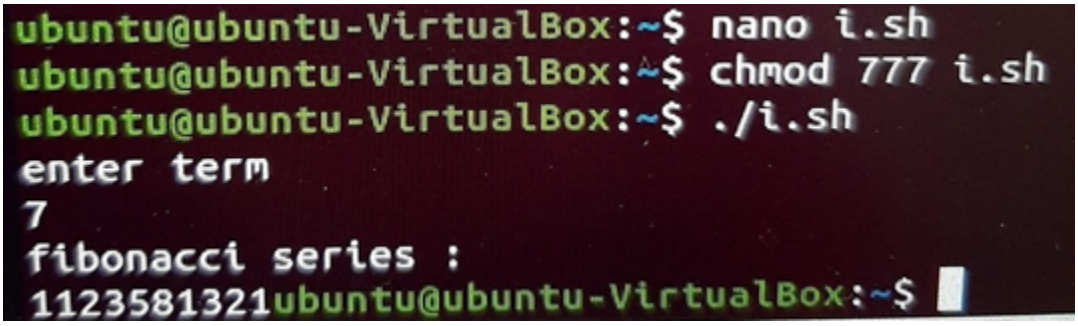
- The GNU Bourne-Again Shell

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

- **Write a menu driven shell script, which will print the following menu and execute the given task.**
  - ❖ **Display a calendar of current month**
  - ❖ **Display today's date and time**
  - ❖ **Display username those are currently logged in the system**
  - ❖ **Display your name at the given x,y position.**
  - ❖ **Display your terminal number.**

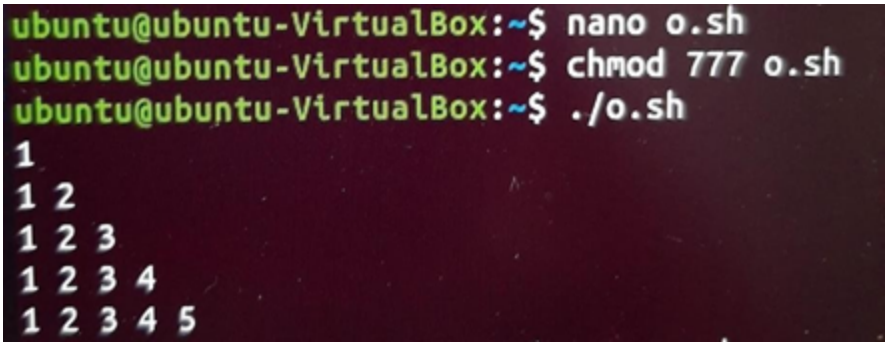


- **Write a shell script which will generate first n Fibonacci numbers such as :1, 1, 2, 3, 5, 13,….etc.**



- **Shell Script to print half pyramids using numbers.**

  Sample Output:



- **Write a shell script to find the reverse of a given number.**
- **Write a shell script to find the sum of two floating point numbers.**
- **Write a shell script to make the following operations menu based:**
  - **Addition**
  - **Subtraction**
  - **Multiplication**
  - **Division**
- **Write a shell script to find the sum of all digits for a given number.**
- **Write a shell script to find the factorial of a given number.**
- **Write a shell script which prints "invalid no. of arguments" if more than 5 command line arguments otherwise print "valid no. of arguments".**
- **Write a shell script that changes text to uppercase**

Submission Instruction:

1. Design, Develop, and execute each script using a 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 penalties and it will be reflected in your internal assessment.

5. Any form of plagiarism/copying from peer or internet sources will not be compromised.