Assignment 01

Shell Programming

→ **Aim :**

Write a program to implement an address book with options given below :

a. Create Address Book
b. View Address Book
c. Insert a record.
d. Delete a record
e. Modify a record
f. Exit.

→ **Objective :**

This assignment will help understand the basic commands in Unix/Linux and how to write shell scripts.

→ **Theory :**

A] What is shell scripting ?

Being a Linux user means you play around with the command-line. Like it or not, there are just some things that are done much more easily via this interface than by pointing & clicking. The command-line

itself is a program: the shell.
Batch files are text files that one could fill with commands to execute and Windows would run them in turn. It was a clever and neat way to get some things done. Batch files in Windows are a cheap limitation of shell scripts.
Shell scripts allow us to program commands in chains and have the system execute them as a scripted event, just like batch files.
You can invoke a command like date or automate backup each copied file and more.
Scripting allows you to use programming functions directly within your Operating System's interface

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Shell-scripts are executed in a separate child shell process. This is done by providing special interpreter line at the beginning.

To run the script we need to make it executable.

Ex. $ chmod +x script.sh
$ script.sh

1. read : making scripts interactive. It allows the user to enter something as an input.

Ex. read name.

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2. Command-Line Arguements:

First arguement is read by $1 & second by $2 and so on...

- $* : Stores set of positional parameters
- $# : Used to set number of arguements
- $0 : Holds the command
- $? : Exit Status of last Command

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3. exit : Command to terminate the program.

exit 0 : When everything went fine.
exit 1 : When something went wrong.
exit 2 : Failure in opening a file.

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4. Logical Operators && and ||

- Cmd1 && Cmd2 : Cmd2 will execute only when Cmd 1 is succeeds
- Cmd1 || Cmd2 : The Cmd2 will execute only when Cmd1 fails.

5. Using test to evaluate expressions.

When we use the if statement, the test statement is required because the true or false values can be directly handled.

a. Numeric Comparison:

- Operators: -eq, -ne, -gt, -ge, -lt, le e
- Use above operators to compare two numerics

b. String Comparison:

Test	True if
S1 = S2	String S1 & S2 are equal
S1 != S2	String S1 & S2 are not equal
-n stg	String stg is not null
stg	String stg is assigned a non null value

c) File Tests:

Tests	True if
-f file	file exists and is a regular file.
-r file	file exists and is a readable.
-w file	file exists and is writable.
-x file	file exists and is executable.
-d file	file exists and is a directory.
-s file	file exists and has a size greater.

→ Conclusion :

This assignment was successfully completed and the implementation of address book using shell scripts was carried out successfully.