

Laboratory Assignment
On
Design Principles of Operating System
(CSE 3249)

Submitted by

Name : Dinanath Dash
Reg. No. : 2241004161
Semester : 5th
Branch : CSE
Section : 2241026
Session : 2024-2025
Admission Batch : 2022



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
FACULTY OF ENGINEERING & TECHNOLOGY (ITER)
SIKSHA 'O' ANUSANDHAN DEEMED TO BE UNIVERSITY
BHUBANESWAR, ODISHA – 751030

Assignment 2: Familiarization with basic Commands in Unix Operating System and Shell Programming.

Objective of this Assignment:

- To learn basic concepts of shell programming
 - To learn concept of command line argument in shell script.
1. Write a shell script named as prog for merge the content of files a.txt, b.txt, and c.txt sort them and save the result in a file called result and display the sorted output on the screen.

```
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano prog
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x prog
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./prog
10
20
30
40
50
60
70
80
90
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ █
```

2. Write a shell script named as systeminfo that will display the information about the login name of the user, name of the Unix system used by the user, type of the SHELL, Path of current working directory of the user and list of file contain in current working directory.

```
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano systeminfo
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x systeminfo
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./systeminfo
Login Name of the User: dinanath
Name of the Unix System: Linux
Type of the Shell: /bin/bash
Current Working Directory: /home/dinanath/DOS_2241004161/DOSass2
Files in the Current Working Directory:
a.txt b.txt c.txt prog result systeminfo
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ █
```

3. Write a shell script named as dtcal for displaying both the system date and calendar for specific month, say march 2022, in the given format: -

Date: specific date

calendar: current calendar.

```
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano dtcal
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x dtcal
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./dtcal
Date: 2024-10-20
Calendar:
    March 2022
Su Mo Tu We Th Fr Sa
      1  2  3  4  5
 6  7  8  9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ █
```

4. Write a shell script named as nvwc which will display the filename and linecount, wordcount and char count of the file dtcal in the following format:

Filename: dtcal

Line count: -

Word count: -

Charcount.

```
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano nvwc
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x nvwc
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./nvwc
Filename: dtcal
Line count: 9
Word count: 24
Char count: 150
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ █
```

5. Write a shell script named as nvwc2 which will display the filename and linecount, word count and char count of any file given as argument to nvwc2 in the following format:

```
filename      linecount    wordcount    charcount
file1         -             -             -
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano nvwc2
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x nvwc2
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./nvwc2 a.txt
filename      linecount    wordcount    charcount
a.txt         3            3            9
```

6. Write a shell script named as darg to display the total number of command line arguments along with the first two arguments. -Modify the script to display all the arguments.

```
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano darg
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x darg
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./darg one two three four
Total number of arguments: 4
First argument: one
Second argument: two
All arguments: one two three four
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ █
```

7. Write a shell script named as ndisp that will take three command line arguments specifying the value of n, m and a filename and display the first n number of lines and last m number of lines of the file given as argument.

```
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ nano ndisp
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ chmod +x ndisp
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ ./ndisp 5 3 file.txt
First 5 lines of file.txt:
hey
what
you
doing
am

Last 3 lines of file.txt:
a cup
of
coffee
dinanath@DINANATH:~/DOS_2241004161/DOSass2$ █
```