Laboratory Assignment #No. 2

On

Design of Operating System (CSE 4049)

Submitted by

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

FACULTY OF ENGINEERING & TECHNOLOGY (ITER)

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Question 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.

(Note: a.txt, b.txt and c.txt file contain some numerical value. Make the script an executable file and run it as a command using its name only.)

Code :

```
clear
echo "Enter the content of a.txt"
cat>a.txt
echo "Entet the content of b.txt"
cat>b.txt
echo "Enter the content of c.txt"
cat>c.txt
cat a.txt b.txt c.txt>result.txt
echo "The output of the result file is"
cat result.txt
echo "The sorted output is "
sort -n result.txt

```

Output :

```
Enter the content of a.txt
78
45
12
Entet the content of b.txt
12
14
24
Enter the content of c.txt
95
24
75
The output of the result file is
78
45
12
12
14
24
95
24
75
The sorted output is
12
12
14
24
24
45
75
78
95
```

Question 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. (Make the script an executable file and run it as a command using its name only.)

Code :

```
who
which bash
$SHELL
pwd
ls
```

Output :

```
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$ ./systeminfo.sh
aks_1299 :1           2023-11-08 20:24 (:1)
/usr/bin/bash
```

Question 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

Calender : current calendar (Make the script an executable file and run it as a command using its name only.)

Code :

```
echo "Date : "
date
echo "Calendar : "
cal march 2002
```

Output :

```
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$ ./dtcal.sh
Date :
Wednesday 08 November 2023 08:48:05 PM IST
Calendar :
     March 2002
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
```

Question 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: -

Charcout: -

(Make the script an executable file and run it as a command using its name only.)

Code :

```
filename="dtcal"
linecount=$(wc -l < "$filename")
wordcount=$(wc -w < "$filename")
charcount=$(wc -c < "$filename")
echo "Filename: $filename"
echo "Line count: $linecount"
echo "Word count: $wordcount"
echo "Char count: $charcount"
```

Output :

```
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$ ./nvwc.sh
Filename: dtcal.sh
Line count: 4
Word count: 12
Char count: 56
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$
```

Question 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	-	-	-

(Make the script an executable file and run it as a command using its name only.)

Code :

```
filename="dtcal.sh"
linecount=$(wc -l < "$filename")
wordcount=$(wc -w < "$filename")
charcount=$(wc -c < "$filename")
echo "filename  linecount       wordcount       charcount"
echo "$filename $linecount      $wordcount      $charcount"
```

Output :

```
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$ ./nvwc2.sh
filename        linecount       wordcount       charcount
dtcal.sh        4       12      56
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$
```

Question 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.

(Make the script an executable file and run it as a command using its name only.)

Code :

```
echo "Enter the first number " $1
echo "Enter the second number " $2
echo "Enter the third number " $3
echo "Enter the fourth number " $4
echo "Total arguments" $#
echo "Argument list" $*
echo "First Argument is : "$1
echo "Last argument is : "$4
```

Output :

```
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$ ./darg.sh 12 45 75 1
Enter the first number  12
Enter the second number  45
Enter the third number  75
Enter the fourth number  1
Total arguments 4
Argument list 12 45 75 1
First Argument is : 12
Last argument is : 1
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$
```

Question 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.

(Make the script an executable file and run it as a command using its name only.)

Code :

```
1 echo "n : " $1
2 echo "m : " $2
3 head -n $1 result.txt
4 tail -n $2 result.txt
```

Output :

```
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$ ./ndisp.sh 4 2
n :  4
m :  2
78
45
12
12
24
75
aks_1299@Ghost:~/2141019334/DOS_2141019334/DOS_Assignment2$
```