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 lean concept of command line argument in shell script.

Q1. 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.)

Command:

$ **cat > a.txt**

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CSE

11

$ cat > b.txt

9.6

10

10

9.9

$ cat > c.txt

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$ gedit prog

$ ./prog

$ chmod a+x prog

$ ls -l prog

$ ./prog

Program:

cat a.txt b.txt c.txt >> d.txt

sort d.txt >> result

cat result

Q2. 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 the current working directory. (Make the script executable file and run it as a command using its name only.)

Command:

$ gedit systeminfo

$ ls -l systeminfo

$ chmod a+x systeminfo

$ ls -l systeminfo

$ ./systeminfo

Program:

whoami

uname

echo $SHELL

pwd

ls

```
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ls -l systeminfo
-rw-rw-r-- 1 student student 36 Oct  5 08:35 systeminfo
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ chmod a+x systeminfo
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ls -l systeminfo
-rwxrwxr-x 1 student student 36 Oct  5 08:35 systeminfo
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./systeminfo
student
Linux
/bin/bash
/home/student/2241002004/Assignment2
total 28
-rw-rw-r-- 1 student student  28 Oct  5 08:19 a.txt
-rw-rw-r-- 1 student student  14 Oct  5 08:19 b.txt
-rw-rw-r-- 1 student student  62 Oct  5 08:20 c.txt
-rw-rw-r-- 1 student student 104 Oct  5 08:26 d.txt
-rwxrwxr-x 1 student student  64 Oct  5 08:25 prog
-rw-rw-r-- 1 student student 104 Oct  5 08:26 result
-rwxrwxr-x 1 student student  36 Oct  5 08:35 systeminfo
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$
```

Q3. Write a 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

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

Command:

$ gedit dtcal

$ ls -l dtcal

$ chmod a+x dtcal

$ ls -l dtcal

$ ./dtcal

Program:

echo “DATE:” `date`

echo “CALENDAR:” `cal`

```
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ gedit dtcal
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ls -l dtcal
-rw-rw-r-- 1 student student 49 Oct  5 08:43 dtcal
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ chmod a+x dtcal
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ls -l dtcal
-rwxrwxr-x 1 student student 49 Oct  5 08:43 dtcal
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./dtcal
Date :  Saturday 05 October 2024 08:43:45 AM IST
Calender :  October 2024 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
```

Q4. Write a shell script as nvwc which will display the filename and line count, word count and char count of the file dtcal in the following format:

Filename: dtcal

Line count: -

Word count: -

Char count: -

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

Command:

$ gedit nvwc

$ ls -l nvwc

$ chmod a+x nvwc

$ ls -l nvwc

$ ./nvwc

Program:

echo “Filename: dtcal”

echo “Line count:” `wc -l < dtcal`

echo “Word count:” `wc -w < dtcal`

echo “Char count:” `wc -c <dtcal`

```
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ gedit nvwc
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ls -l nvwc
-rw-rw-r-- 1 student student 125 Oct  5 08:56 nvwc
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ chmod a+x nvwc
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ls -l nvwc
-rwxrwxr-x 1 student student 125 Oct  5 08:56 nvwc
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./nvwc
Filename: dtcal
Line Count:   wc -l
Word count:   wc -w
Char count:   wc -c
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ gedit nvwc
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./nvwc
Filename: dtcal
Line Count:   4
Word count:   10
Char count:   49
```

Q5. 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 a script an executable file and run it as a command using its name only.)

Command:

$ gedit nvwc2

$ chmod a+x nvwc2

$ ./nvwc2 dtcal

Program:

echo “Filename linecount wordcount charcount”

echo “$1 `wc -l < $1` `wc -w < $1` `wc -c < $1`”

```
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ gedit nvwc2
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ chmod a+x nvwc
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./nvwc2 dtcal
filename        linecount       wordcount       charcount
dtcal           4               10              49
```

Q6. Write a shell script named as drag 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.)

Command:

$ gedit drag

$ chmod a+x drag

$ ./drag

$ ./drag dtcal

$ ./drag Madan Bag 04

Program:

echo "Total number of command line argument: $#"

echo "First argument: $1'

echo "Second argument: $2"

echo "Complete list of argument: $@"

```
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ gedit drag
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ chmod a+x drag
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./drag
Total number of command line argument: 0
First argument:
Second argument:
Complete list of argument:
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./drag dtcal
Total number of command line argument: 1
First argument: dtcal
Second argument:
Complete list of argument: dtcal
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./drag Madan Bag 04
Total number of command line argument: 3
First argument: Madan
Second argument: Bag
Complete list of argument: Madan Bag 04
```

Q7. 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.)

Command:

```
$ cat > year
Jan
Feb
Mar
Apr
May
Jun
July
Aug
Sep
Oct
Nov
Dec

$ gedit ndisp
$ chmod a+x ndisp
$ ./ndisp 9 6 year
```

Program:

```
echo "The first $1 number of lines of the file $3"
head -$1 $3
echo "The last $1 number of lines of the file $3"
tail -$2 $3
```

```
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ gedit ndisp
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ chmod a+x ndisp
student@iteradmin-Vostro-3268:~/2241002004/Assignment2$ ./ndisp 9 6 year
the first 9 number of lines of the file year:
Jan
Feb
Mar
Apr
May
June
July
Aug
Sep
the last 6 number of lines of the file year:
July
Aug
Sep
Oct
Nov
Dec
```