SIKSHA 'O' ANUSANDHAN
DEEMED TO BE UNIVERSITY

Admission Batch : 2021 - 25 **Session : 2023 - 24**

Laboratory Assignment #2

DESIGN OF OPERATING SYSTEMS
(CSE 4049)

Submitted By -

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Objective of this Assignment:

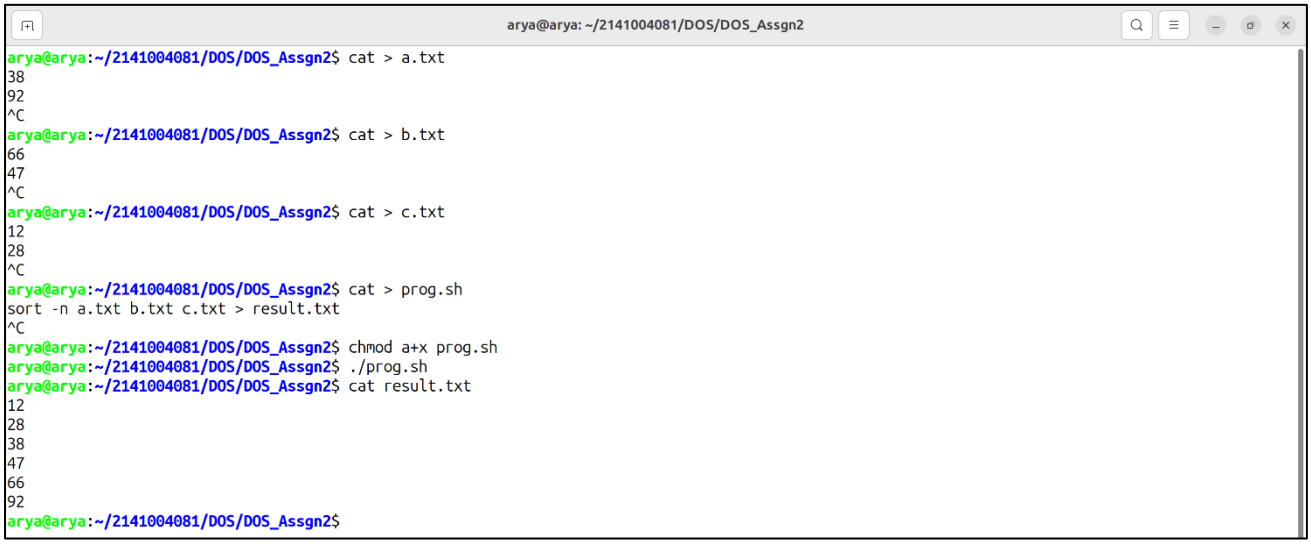
- To learn basic concepts of shell programming
- To lean concept of command line argument in shell script.

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.

Command:

```
cat > a.txt
cat > b.txt
cat > c.txt
cat > prog.sh
     sort -n a.txt b.txt c.txt > prog.sh
chmod a+x prog.sh
./prog.sh
cat result.txt
```

Output:

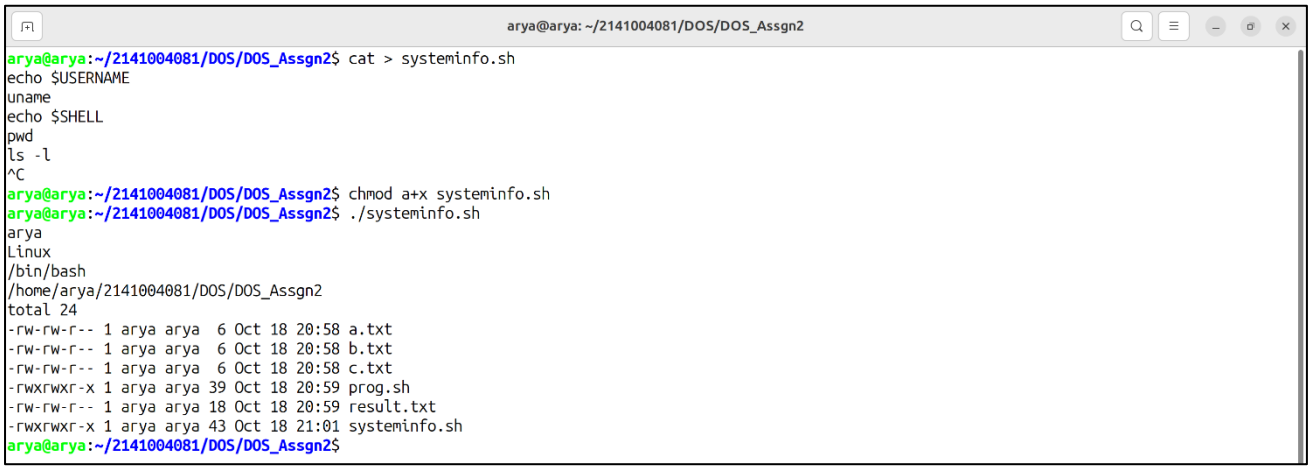


Q2. Write a shell script named as systeminfo that will display the information about the login name of the user, name of the Unix system used by the user, type of the SHELL, Path of current working directory of the user and list of files contain in current working directory.

Command:

```
cat > systeminfo.sh
    echo $USERNAME
    uname
    echo $SHELL
    pwd
    ls -l
chmod a+x system.info
./systeminfo.sh
```

Output:



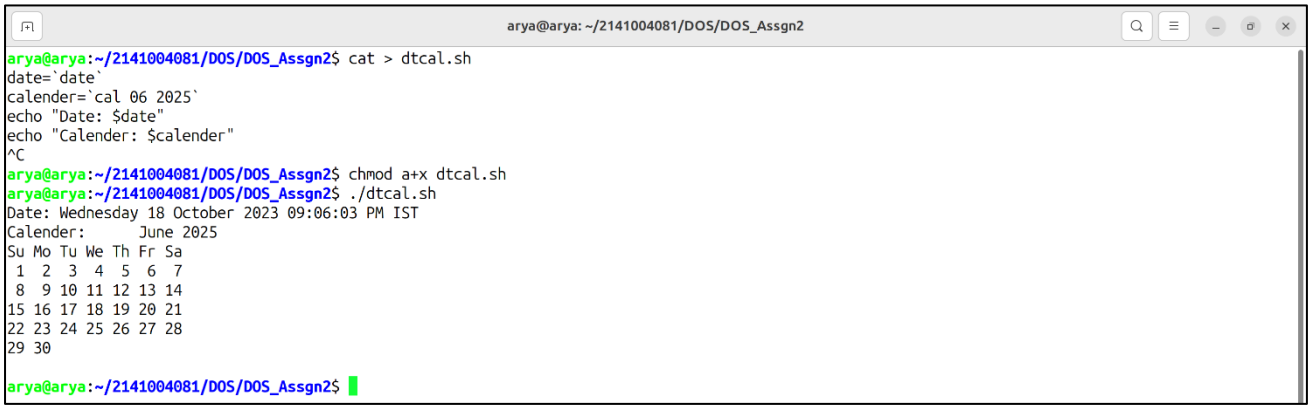
Q3. Write a shell script named as dtcal for displaying both the system date and calendar for specific month, say march 2022, in the given format:

```
Date: specific date
Calendar: current calendar
```

Command:

```
cat > dtcal.sh
    date=`date`
    calendar=`cal 06 2025`
    echo “Date: $date”
    echo “Calendar: $calendar”
chmod a+x dtcal.sh
./dtcal.sh
```

Output:



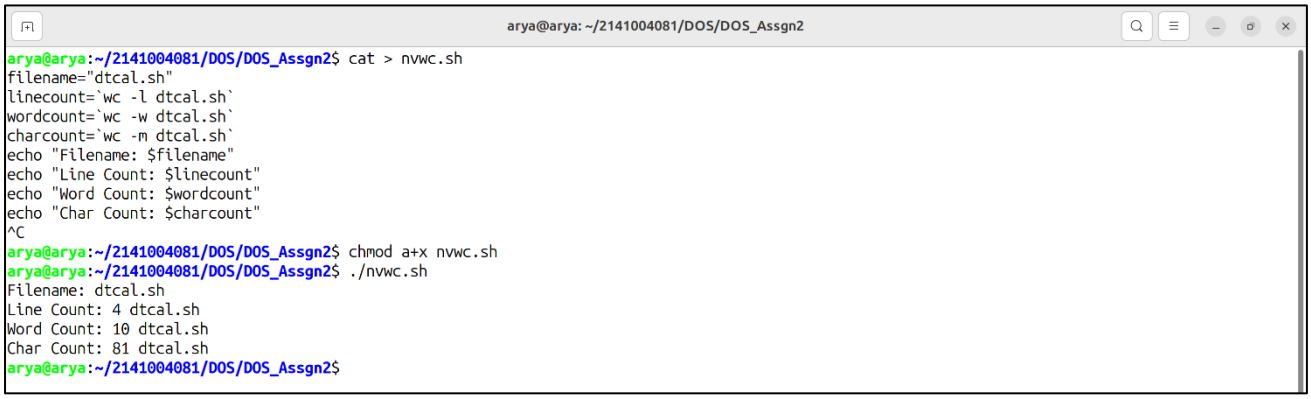
Q4. Write a shell script named as nvwc which will display the filename and line count, wordcount and char count of the file dtcal in the following format:

```
Filename: dtcal
Line count:
Word count:
Char count:
```

Command:

```
cat > nvwc.sh
    filename="dtcal.sh"
    linecount=`wc -l $filename`
    wordcount=`wc -w $filename`
    charcount=`wc -m $filename`
    echo "Filename: $filename"
    echo "Line Count: $linecount"
    echo "Word Count: $wordcount"
    echo "Char Count: $charcount"
chmod a+x nvwc.sh
./nvwc.sh
```

Output:



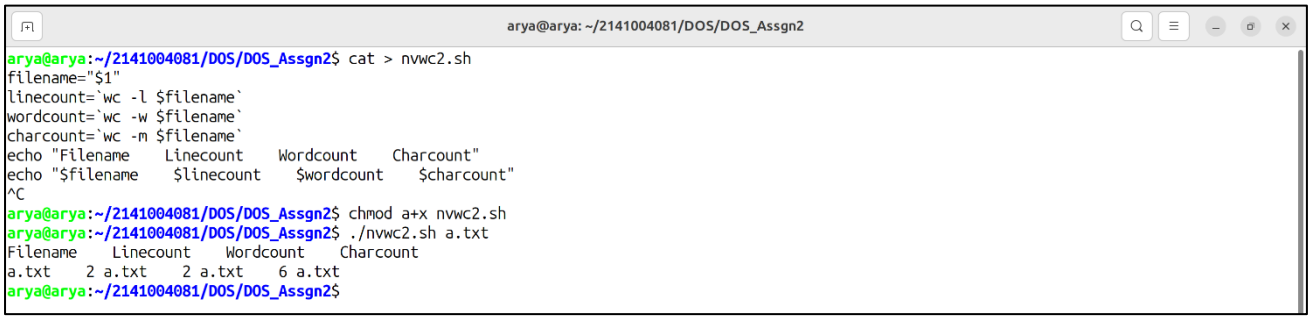
Q5. Write a shell script named as nvwc2 which will display the filename and line count, word count and char count of any file given as argument to nvwc2 in the following format:

```
filename    linecount    wordcount    charcount
file1       -            -            -
```

Command:

```
cat > nvwc2.sh
    filename=”$1”
    linecount=`wc -l $filename`
    wordcount=`wc -w $filename`
    charcount=`wc -m $filename`
    echo “Filename  Linecount  Wordcount  Charcount”
    echo “$filename $linecount $wordcount $charcount”
chmod a+x nvwc2.sh
./nvwc2.sh a.txt
```

Output:

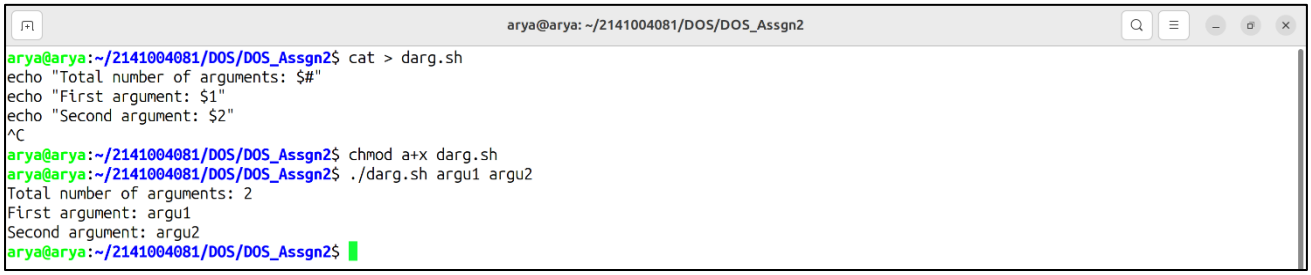


Q6. Write a shell script named as darg to display the total number of command line arguments along with the first two arguments.
Modify the script to display all the arguments.

Command Part 1:

```
cat > darg.sh
    echo “Total number of arguments are: $#”
    echo “First argument: $1”
    echo “Second argument: $2”
chmod a+x darg.sh
./darg.sh argu1 argu2
```

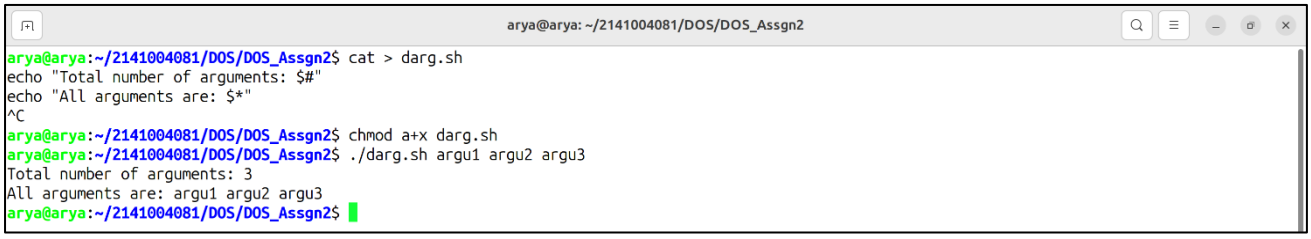
Output Part 1:



Command Part 1:

```
cat > darg.sh
    echo “Total number of arguments are: $#”
    echo “All arguments are: $*”
chmod a+x darg.sh
./darg.sh argu1 argu2 argu3
```

Output Part 2:



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.

Command:

```
cat > file.txt
cat > ndisp.sh
    n=$1
    m=$2
    filename=$3
    head -n $n $filename
    tail -n $n $filename
chmod a+x ndisp.sh
./ndisp.sh 2 2 file.txt
```

Output: