Program 1:- Shell script to display current date, time, username and directory

```
# Display username
echo "username: $(whoami)"
# Display current date and time
echo "current date and time: $(date)"
# Display current working directory
echo "current working directory: $(pwd)"
```

Output:-

```
username: ikram
current date and time: Tue Mar 19 09:03:00 PM EDT 2024
current working directory: /home/ikram/os
```

Program 2:- Shell script to determine wheather the given file exist or not

```
Get the path to the file to check
file_path=$1

   # Check if the file exists
if [ -f "$file_path" ]; then
        echo "The file $file_path exists."
else
echo "The file $file_path does not exist."
fi
```

Output:-

```
ikram@linuxserver:~/ikrami$ pwd
/home/ikram/ikraml
ikram@linuxserver:~/ikraml$ sh prgl.sh/home/ikram/ikram1/£2. txt
the file /home/ikram/ikram1/£2. txt exists.
ikram@linuxserver: ~/ikraml$ sh prgl.sh /home/ikram/ikram1/f9.txt
the file /home/ikram/ikraml/f9.txt does not exists. ikram@linuxserver:~/ikraml$
```

Program 3:- Shell script to show system-related information.

```
clear
echo “USERNAME: $USER”
echo “”
echo “login name:$LOGNAME”
echo “”
echo “Current shell: $HELL”
echo “”
echo “home directory: $HOME”
```

Output:

Username: user1
Login name: user 1 Current shell : /bin/bash
Home directory: /home/user1

Program 4:- Shell script to show various system configuration like

```
clear

echo “your operating system type: $OSTYPE”
echo “”
echo “current path setting: $path”
echo “”
echo “current working directory: $pwd”
echo “”
echo “Available shells: ‘cat/etc/shells’”
echo “”
```

Output:

```
Your operating system type:
Current path settings:
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/local/goes:/usr/games
Current working directory: /home/ikram/os available shells /etc/shell valid Login shells
/bin/sh /usr/bin/sh
/bin/bash
/usr/bin/bash
/bin/shash /usr/bin/rhash
/bin/dash /usr/bin/dash
/usr/bin/tex
/bin/zsh
/usr/bin/zsh /usr/bin/pwsh
/opt/microsoft/powershell/7/pwsh
```

Program 5:- Shell script to accept any two file name and check their file permission

```
#Check if two arguments are provided
if [ "$#" -ne 2]; then
Echo "Usage: $0 <file1> <file2>"
Exit 1
Fi
#Check permissions for file 1
Echo "Permissions for '$1':"
Ls -1 "$1"
Echo
#Check permissions for file 2
Echo "Permissions for '$2':"
Ls -1 "$2"
Echo
Exit 0
```

Output:

```
Sh 5.sh 1.txt 2.txt
Permissions for '1.txt':
rw-r—r—1 ikram ikram 6 Mar 19 22:06 1.txt
Permissions for '2.txt':
-rw-r—r—1 ikram ikram 8 Mar 19 22:07 2.txt
```

Program 6:- Shell script to read a file name and change the existing file permission

```
F=”$1”
For f in ${*}; do
If [ -e $f ]; then
Echo “File Exists!”
If [ -w $f] && [ -r $f ]; then
Chmod a-rwx $f && echo “File Permission has been changed”
Else
Echo “File does not Exist” && exit
Fi
Done
```

Output:

```
hasnainlinuxserver:~/hasnain$ sh p6.sh h7.sh
file Exists!
File permission has been changed
hasnain@linurserver:~/hasnain$ 1s h3.txt h7.sh
```

Program 7:- Biggest of three numbers using if-elif:

```
!/bin/bash
Echo “Enter three numbers: “
Read num1
Read num2
Read num3
If [$numl -gt $num2] && [ $numl -gt $num3); then
Echo “$numl is the biggest.”
Elif [ $num2 -gt $numl ] && [ $num2 -gt $num3); then
echo “$num2 is the biggest.”
Else
Echo “$num3 is the biggest
Fi
```

Output

```
Enter three numbers:
12
45
78
78 is the biggest.
```

Program 8:- check whether word is present in a sentence or not

```
!/bin/bash
Echo “Enter a sentence:”
Read sentence
Echo “Enter the word to search for: “
Read word
If [[$sentence *”$word”* ]]; then
Echo “The word ‘Sword’ is present in the sentence.”
Echo “The word ‘$word’ is not present in the sentence.”
Else
Fi
```

Output:

```
Enter a sentence:
mohammed ikram ashrafi
Enter the word to search for:
hasnain
The word 'hasnain' is not present in the sentence.
```

Program 9:- Print the numbers in a matrix format

```
#!/bin/bash
# Define a 3x3 matrix
matrix=(
    1 2 3
    4 5 6
    7 8 9
)
# Loop through each row of the matrix
for ((i=0; i<3; i++)); do
    # Loop through each element in the row
    for ((j=0; j<3; j++)); do
        # Print the element followed by a space
        echo -n "${matrix[i*3+j]} "
    done
    # Move to the next line after printing each row
    echo
done
```

Output:

```
 1 2 3
4 5 6
7 8 9
```

Program 10:- count the numbers of lines,words & characters in given file

```
echo enter the filename read file
c=`cat $file | wc -c` w=`cat $file | wc -w` l=`grep -c "." $file`
echo Number of character in $file is $c echo Number of words in $file is $w echo Number of lines in $file is $1
```

Output:

```
enter the filename d7.sh
Number of character in d7.sh is 143 Number of words in d7.sh is 29 Number of lines in d7.sh is
```

Program 11:- write a shell script to reverse the given number

```
echo enter n
read n
num=0

while [ $n -gt 0 ]
do
        num =$(expr $num \* 10)
        k= $(expr $n % 10)
        num= $(expr $sum + $k)
        n= $(expr $n / 10)
done

echo  number is  $num
```

Output:

Enter n

12345

Number is 54321

Program 12:- to check whether the given number is odd or even

```
clear

echo “       _even or odd in shell _script_” " echo  -n  "enter a number:"
read n

echo -n "RESULT:"

if  [  `expr  $n  %  2`  ==  0 ]
 then
echo "$n is even" else
echo "$n is odd" fi
```

Output:

even or odd in shell script enter a number:12 RESULT:12 is even

Program 13:- A shell script to calculate the factorial of input number using loop

```
read  -p  "Enter a number"  num
 fact=1
for ((i=2; i<=num; i++))

{

fact=$((fact*i))

}
echo $fact
```

Output:

Enter a number 5 120

Program 14:- Smallest of three numbers using if –elif -fi echo "enter Three Numbers"

```
read a b c
if (( $a<=$b && $a<=$c )) then
small=$a
elif (( $b<=$a && $b<=$c )) then
small=$b
elif (( $c<=$a && $c<=$b )) then
small=$ fi
echo smallest among $a $b $c is $small
```

Output:

```
Enter Three Numbers:
12 22 55

smallest among 12 22 55 is 12
```