

Date: 17/08/2020

Slot: L3 + L4

Reg. No.: 19BCE0977

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EXPERIMENT 2

EXPERIMENT 2C

AIM:

To write a shell script program to find the factorial of a given number using while loop.

CODE:

```
Ubuntu 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
Aug 14 22:58
swaranjana@swaranjana-virtual-machine: ~/Documents/OS_lab

# shell script to print factorial of a number
echo "Enter the number: "
read num
m=$num
fac=1
if [ $m -lt 0 ]
then
    echo "Factorials of negative numbers are not defined."
else
    while [ $m -ne 0 ]
    do
        fac=$((fac * m))
        m=$((m - 1))
    done
    echo "Factorial of $num is $fac."
fi
```

OUTPUT:

```
Ubuntu 64-bit - VMware Workstation 15 Player (Non-commercial use only)
Player
Aug 14 21:50
swaranjana@swaranjana-virtual-machine: ~/Documents/OS_lab

swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ pwd
/home/swaranjana/Documents/OS_lab
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ls
ex2.sh  Expt_1  expt_move  factorial.sh  hello  leap_year.sh  three_nos.sh  three_nos.txt
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ vi factorial.sh
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./factorial.sh
Enter the number:
-9
Factorials of negative numbers are not defined.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./factorial.sh
Enter the number:
0
Factorial of 0 is 1.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./factorial.sh
Enter the number:
1
Factorial of 1 is 1.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./factorial.sh
Enter the number:
10
Factorial of 10 is 3628800.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./factorial.sh
Enter the number:
15
Factorial of 15 is 1307674368000.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$
```

RESULT:

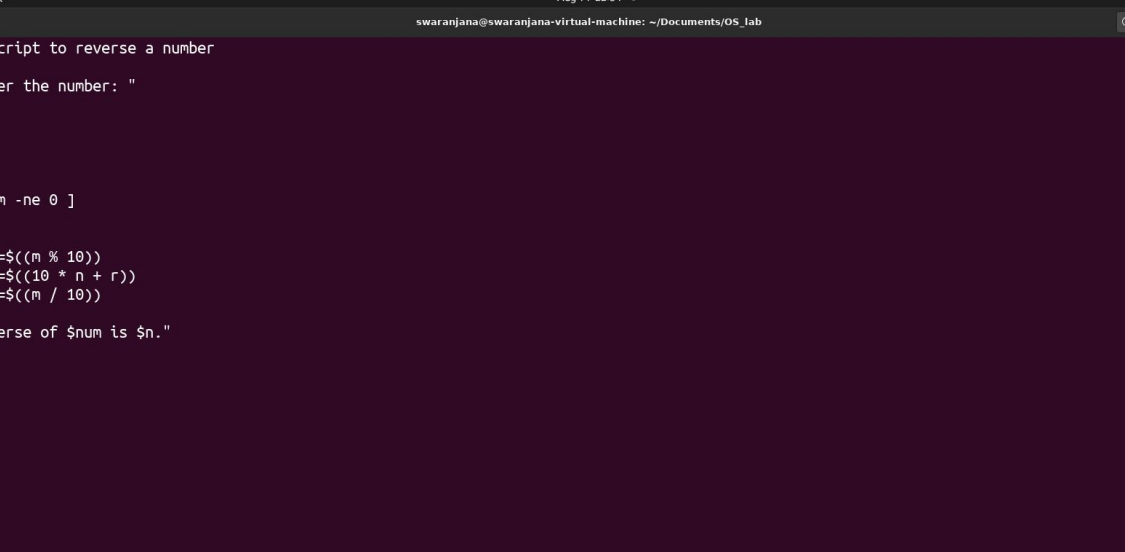
The program to print factorial of a given number was implemented in shell script using vi editor, and it executes correctly.

EXPERIMENT 2D

AIM:

To write a shell script program to reverse a given number using while loop.

CODE:



The screenshot shows a terminal window titled "swaranjana@swaranjana-virtual-machine: ~/Documents/OS_lab". The terminal has a dark purple background and displays a shell script to reverse a number. The script is as follows:

```
#!/bin/bash
# shell script to reverse a number

echo "Enter the number: "
read num

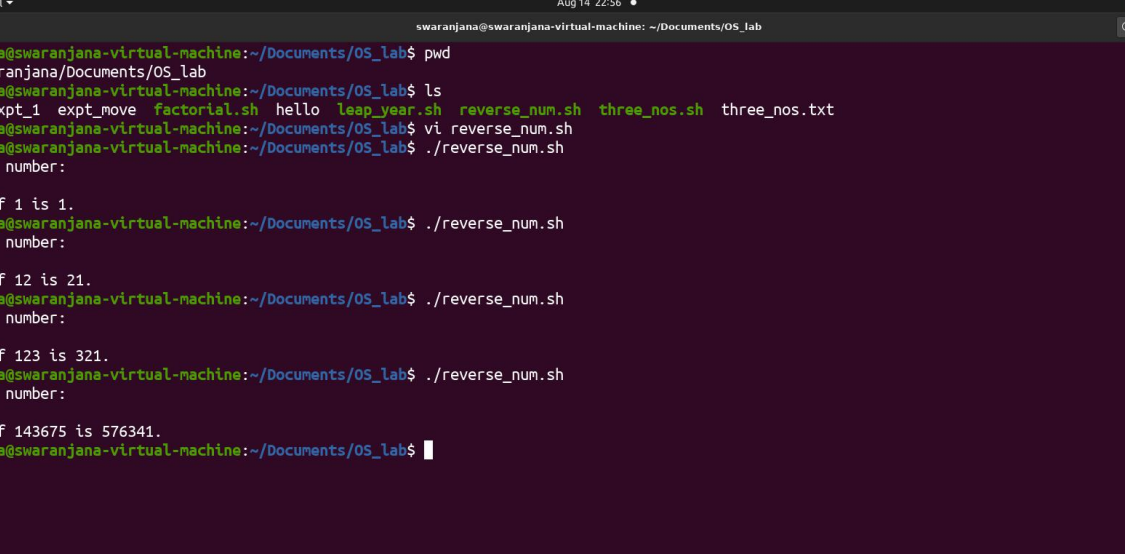
m=$num
n=0

while [ $m -ne 0 ]
do
    r=$((m % 10))
    n=$((10 * n + r))
    m=$((m / 10))
done

echo "Reverse of $num is $n."
```

The terminal shows the prompt character `~` on each line, indicating the script is being executed line by line. At the bottom of the terminal, a status bar indicates: `"reverse_num.sh" 16 lines, 192 characters`. The top of the window shows the VMware Workstation 15 Player interface with the title "Ubuntu 64-bit - VMware Workstation 15 Player (Non-commercial use only)". The bottom of the image shows the Windows taskbar with various application icons and the system clock displaying "ENG 22:54".

OUTPUT:



The screenshot shows a terminal window titled "Terminal" with the prompt "swaranjana@swaranjana-virtual-machine: ~/Documents/OS_lab". The user has executed the following commands and received the following output:

```
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ pwd
/home/swaranjana/Documents/OS_lab
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ls
ex2.sh  Expt_1  expt_move  factorial.sh  hello  leap_year.sh  reverse_num.sh  three_nos.sh  three_nos.txt
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ vi reverse_num.sh
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./reverse_num.sh
Enter the number:
1
Reverse of 1 is 1.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./reverse_num.sh
Enter the number:
12
Reverse of 12 is 21.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./reverse_num.sh
Enter the number:
123
Reverse of 123 is 321.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$ ./reverse_num.sh
Enter the number:
143675
Reverse of 143675 is 576341.
swaranjana@swaranjana-virtual-machine:~/Documents/OS_lab$
```

The terminal window is part of a virtual machine interface, with a taskbar at the bottom showing various application icons and system status indicators like "ENG 22:56".

RESULT:

The program to reverse a given number was implemented in shell script using vi editor, and it executes correctly.