

EXPERIMENT- 3

Aim:

- a) Write a shell script program to find factorial of a number

Code to find Factorial:

```
pratibhasingh@fedora:~/Desktop/CAD —  
#!/bin/bash  
echo "Enter number to calculate factorial"  
read num  
  
fact=1  
  
for((i=2;i<=num;i++))  
{  
    fact=$((fact * i))  
}  
  
echo $fact
```

Output:

```
[pratibhasingh@fedora CAD]$ ./factorial.sh  
Enter number to calculate factorial  
5  
120  
[pratibhasingh@fedora CAD]$ ./factorial.sh  
Enter number to calculate factorial  
2  
2  
[pratibhasingh@fedora CAD]$ ./factorial.sh  
Enter number to calculate factorial  
4  
24
```

- b) Write a shell script program to sort an array in ascending order

Code to sort an array:

```
pratibhasingh@fedora:~/Desktop/CAD — /usr/libe  
#!/bin/bash  
  
IFS=' ' read -ra arr -p "Enter list of number: "  
  
sort -n <(printf "%s\n" "${arr[@]}")
```

Output:

```
[pratibhasingh@fedora CAD]$ ./sorting.sh
Enter list of number: 5 2 4 8 7
2
4
5
7
8
[pratibhasingh@fedora CAD]$ ./sorting.sh
Enter list of number: 11 23 54 67 2
2
11
23
54
67
```

- c) Write a shell script program to display list of user currently logged in.

Code to display list of currently logged in user:

```
pratibhasingh@fedora:~/Desktop/CAD -
#!/bin/bash
who
```

Output:

```
[pratibhasingh@fedora CAD]$ ./userlisting.sh
pratibhasingh tty2          2021-09-26 18:30 (tty2)
```

- d) Write a shell script program to display “HELLO WORLD”.

Code to display HELLO WORLD:

```
pratibhasingh@fedora:~/Desktop/CAD —
#!/bin/bash
echo "HELLO WORLD"
```

Output:

```
[pratibhasingh@fedora CAD]$ ./hello.sh
HELLO WORLD
```

- e) Write a shell script program to develop a calculator.

Code to develop a Calculator:

```
#!/bin/bash

echo "enter first number"
read a
echo "enter second number"
read b

echo "Enter operation: "
echo "1.Addition"
echo "2.Subtraction"
echo "3.Multiply"
echo "4.Division"
read op

case $op in
1)res= echo "sum=$((a+b))"
;;
2)res= echo "sub=$((a-b))"
;;
3)res= echo "mul=$((a*b))"
;;
4)res= echo "div=$((a/b))"
;;
*) echo "invalid choice "
esac
```

Output:

```
[pratibhasingh@fedora CAD]$ ./calculator.sh
enter first number
5
enter second number
4
Enter operation:
1.Addition
2.Subtraction
3.Multiply
4.Division
1
sum=9
```

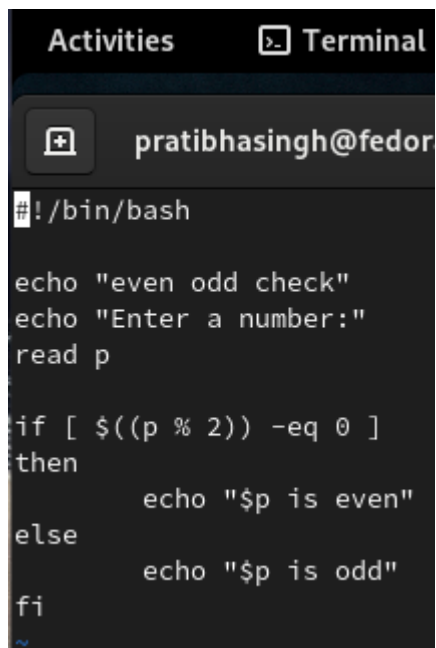
```
[pratibhasingh@fedora CAD]$ ./calculator.sh
enter first number
19
enter second number
15
Enter operation:
1.Addition
2.Subtraction
3.Multiply
4.Division
2
sub=4
```

```
[pratibhasingh@fedora CAD]$ ./calculator.sh
enter first number
5
enter second number
30
Enter operation:
1.Addition
2.Subtraction
3.Multiply
4.Division
3
mul=150
```

```
[pratibhasingh@fedora CAD]$ ./calculator.sh
enter first number
35
enter second number
5
Enter operation:
1.Addition
2.Subtraction
3.Multiply
4.Division
4
div=7
```

f) Write a shell script program to check whether the given number is even or odd.

Code to check even odd:

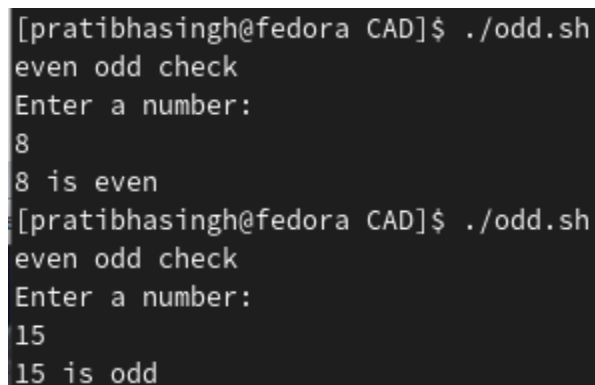


```
Activities Terminal
+ pratibhasingh@fedora
#!/bin/bash

echo "even odd check"
echo "Enter a number:"
read p

if [  $$(p \% 2)$  -eq 0 ]
then
    echo "$p is even"
else
    echo "$p is odd"
fi
```

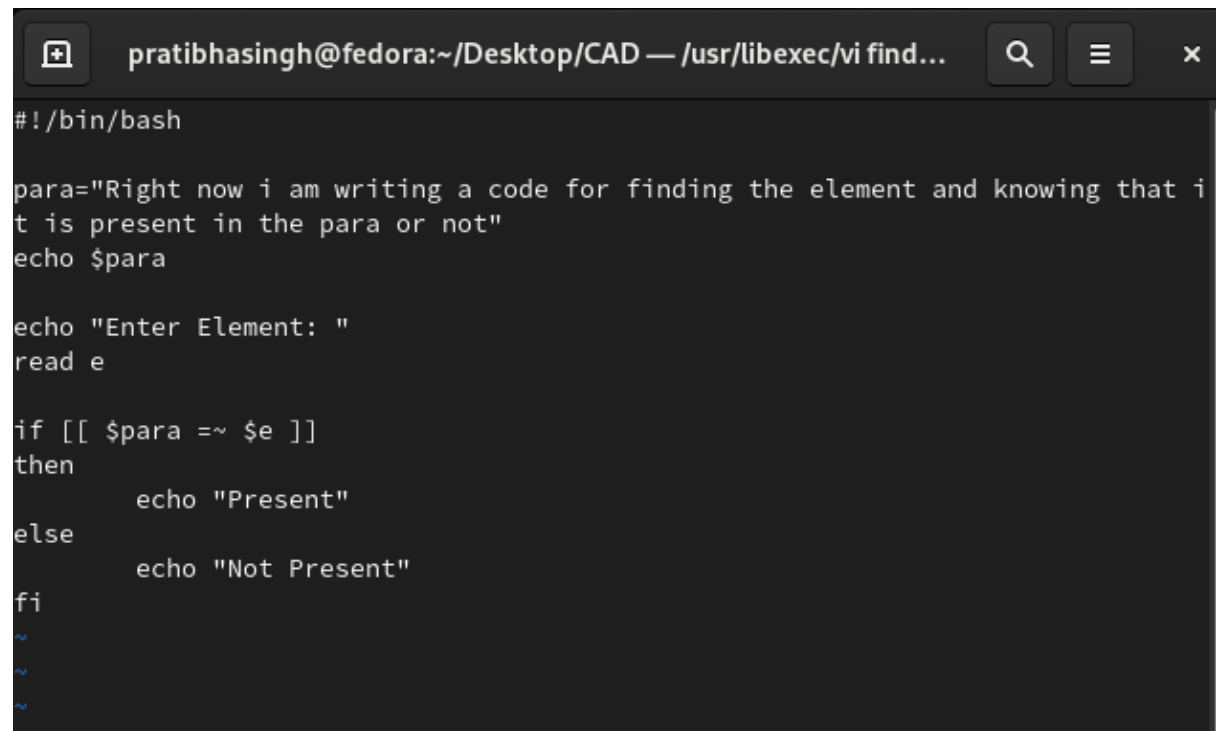
Output:



```
[pratibhasingh@fedora CAD]$ ./odd.sh
even odd check
Enter a number:
8
8 is even
[pratibhasingh@fedora CAD]$ ./odd.sh
even odd check
Enter a number:
15
15 is odd
```

g) Write a shell script program to search whether element is present in the list or not.

Code to search element presence:



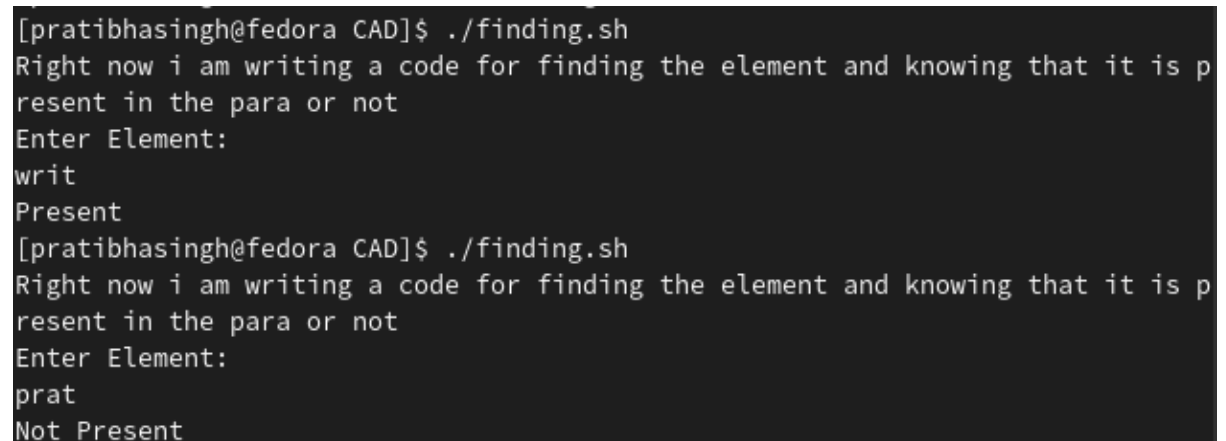
```
pratibhasingh@fedora:~/Desktop/CAD — /usr/libexec/vi find...
#!/bin/bash

para="Right now i am writing a code for finding the element and knowing that i
t is present in the para or not"
echo $para

echo "Enter Element: "
read e

if [[ $para =~ $e ]]
then
    echo "Present"
else
    echo "Not Present"
fi
~
~
~
```

Output:



```
[pratibhasingh@fedora CAD]$ ./finding.sh
Right now i am writing a code for finding the element and knowing that it is p
resent in the para or not
Enter Element:
writ
Present
[pratibhasingh@fedora CAD]$ ./finding.sh
Right now i am writing a code for finding the element and knowing that it is p
resent in the para or not
Enter Element:
prat
Not Present
```