VISHWAKARMA INSTITUTE OF TECHNOLOGY

COMPUTER ENGINEERING

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Subject: Operating System (OS) LAB

Shell Script

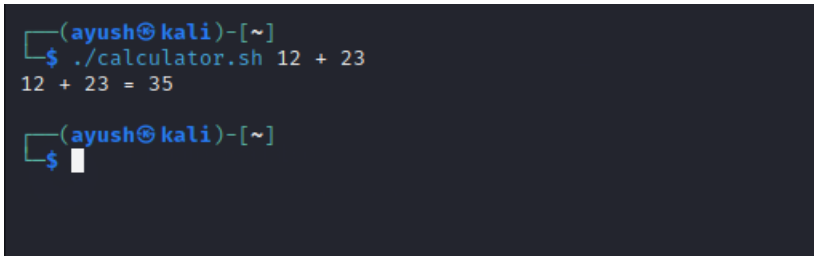
Write a shell script for

1.For Calculator using command line arguments

```
#!/bin/bash
if [ $# -ne 3 ]
t
hen
    echo "Usage: $0 num1 operator num2"
    exit 1
fi

num1=$1
operator=$2
num2=$3

case $operator in
    +)
        result=$((num1 + num2))
        ;;
```

```
    -)
        result=$((num1 - num2))
        ;;
    \*)
        result=$((num1 * num2))
        ;;
    /)
        result=$((num1 / num2))
        ;;
    *)
        echo "Invalid operator: $operator"
        exit 1
        ;;
esac

echo "$num1 $operator $num2 = $result"
```

Output:



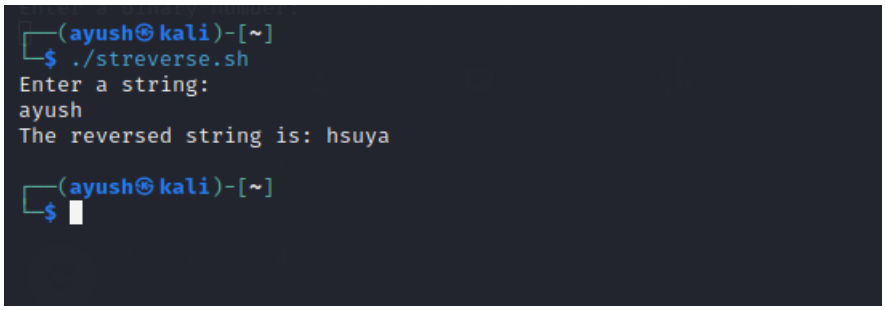
2. To accept the strings & to reverse the string.

Code:

```
#!/bin/bash

echo "Enter a string: "
read str
len=${#str}
```

```
rev=""
for (( i=$len-1; i>=0; i-- ))
do
   rev="$rev${str:$i:1}"
done
echo "The reversed string is: $rev"
```

Output:



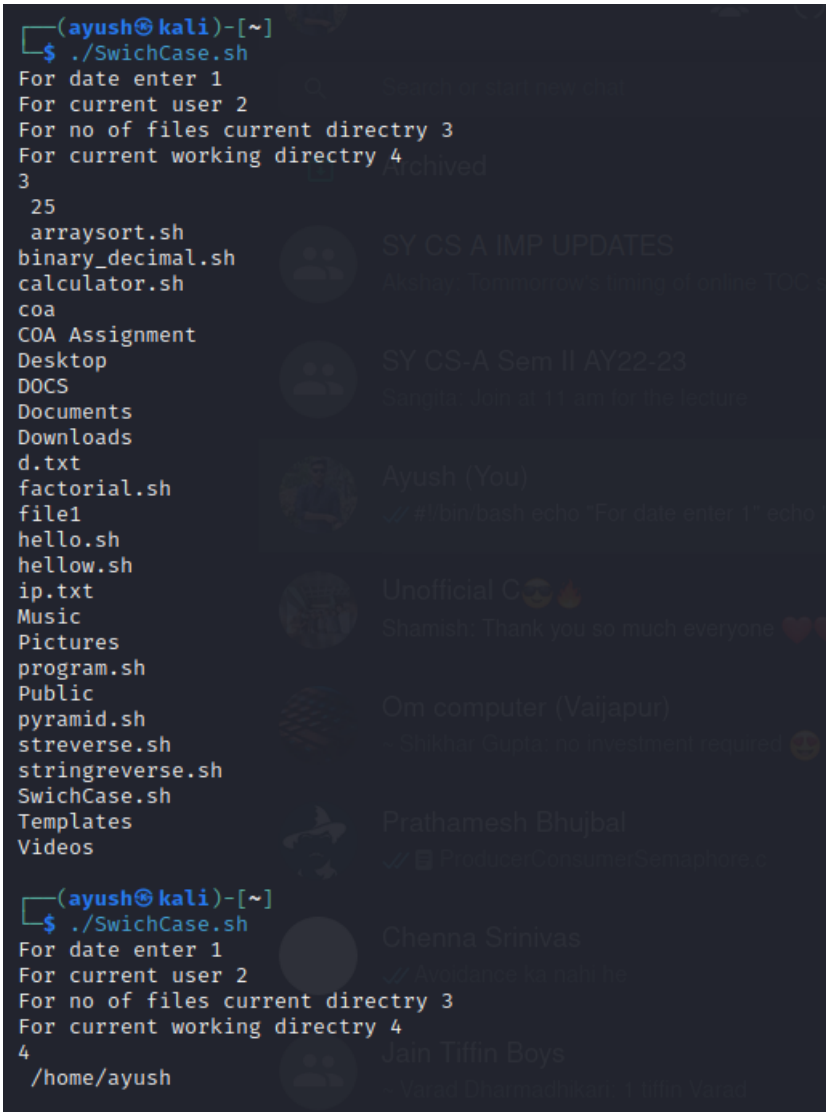
3. To execute linux commands using case statement.

Code:

```
#!/bin/bash
echo "For date enter 1"
echo "For current user 2"
echo "For no of files current directry 3"
echo "For current working directry 4"
read n
case $n in
 1)
 echo `date`
 ;;
 2)
u="$USER"
echo "User name $u"
```

```
;;
3)
echo " $(ls | wc -l)"
echo " $(ls)"
;;
4)
echo " $(pwd)"
;;
*)
echo "Invalid operator: $operator"
exit 1
;;
esac
```

Output:



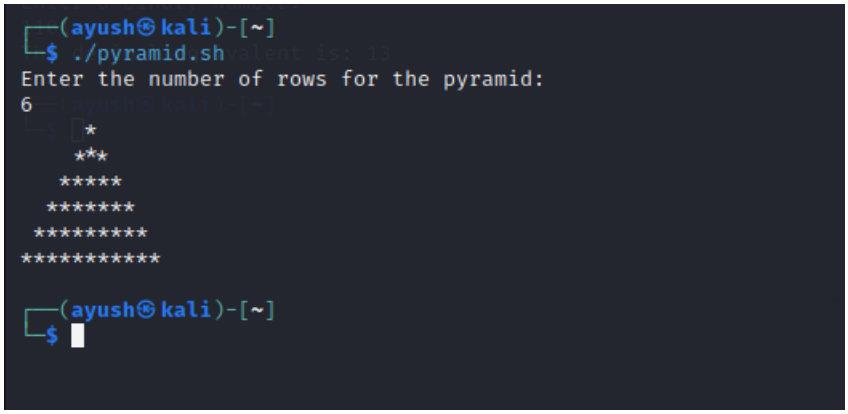
4. **To print the pyramid of ***

Code:

```
#!/bin/bash
echo "Enter the number of rows for the pyramid: "
read rows
for (( i=1; i<=rows; i++ ))
do
   for (( j=1; j<=rows-i; j++ ))
   do
```

```
    echo -n " "
  done+++++
  for (( k=1; k<=2*i-1; k++ ))
  do
    echo -n "*"
  done
  echo
done
```

Output:



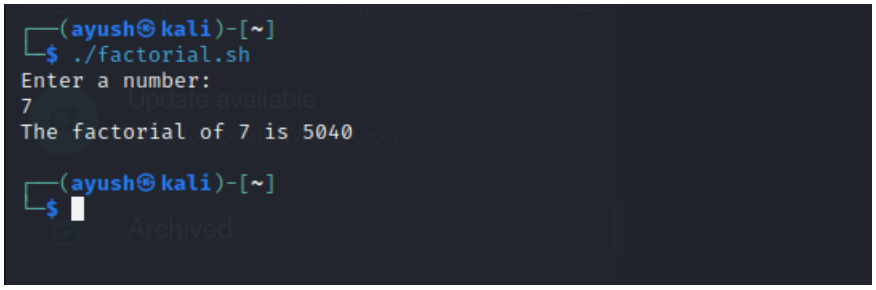
5.To write a function for factorial of a number

Code:

```
#!/bin/bash

factorial() {
  if [ $1 -eq 0 ]
  then
    echo 1
  else
    prev=$(factorial $(( $1 - 1 )))
    echo $(( $1 * $prev ))
  fi
```

```
}

echo "Enter a number: "
read num

fact=$(factorial $num)

echo "The factorial of $num is $fact"
```

Output:



6. To sort the given elements using any sorting method.

```
#!/bin/bash
echo "Enter number of elements"
read n
echo "enter Numbers in array:"

for (( i = 0; i < $n; i++ ))
do
   read nos[$i]
done
for (( i = 0; i < $n ; i++ ))
do
   for (( j = $i; j < $n; j++ ))
```

```
    do
        if [ ${nos[$i]} -gt ${nos[$j]}  ];
        then
            t=${nos[$i]}
            nos[$i]=${nos[$j]}
            nos[$j]=$t
        fi
    done
done
echo -e "\nSorted Numbers "
for (( i=0; i < $n; i++ ))
do
    echo ${nos[$i]}
done
```

Output: