

Programs Shell Scripting

1. Adding two integers

juhi@05d861eca28c5c4: ~

```
#!/usr/bin/bash
read -p "Input1 : " inp1
if [[ -z $inp1 ]]
then
    echo "Input 1 cannot be empty, please enter an integer."
    exit
fi

read -p "Input2 : " inp2
if [[ -z $inp2 ]]
then
    echo "Input 2 cannot be empty, please enter an integer."
    exit
fi

bc_val=`echo "$inp1+$inp2" | bc`
echo "BC Value : $bc_val"

expr_val=`expr $inp1 + $inp2`
echo "EXPR Value : $expr_val"
```

juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch add.sh
juhi@05d861eca28c5c4:~$ vi add.sh
juhi@05d861eca28c5c4:~$ chmod +x add.sh
juhi@05d861eca28c5c4:~$ ./add.sh
Input1 : 20
Input2 : 34
BC Value : 54
EXPR Value : 54
juhi@05d861eca28c5c4:~$
```

2. Palindrome Number

Select juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ chmod +x palindrome.sh
juhi@05d861eca28c5c4:~$ cat palindrome.sh
echo "ENter the number:"
read n
num=$n
rev=0
while [ $n -gt 0 ]
do
    a=`expr $n % 10`
    n=`expr $n / 10`
    rev=`expr $rev \* 10 + $a`
done
echo $rev
if [ $num -eq $rev ]
then
    echo "The number is a palindrom!"
else
    echo "The number is not a palindrom number!"
fi
juhi@05d861eca28c5c4:~$ vi palindrome.sh
juhi@05d861eca28c5c4:~$ ./palindrome.sh
ENter the number:
1234567
7654321
The number is not a palindrom number!
juhi@05d861eca28c5c4:~$ ./palindrome.sh
ENter the number:
12321
12321
The number is a palindrom!
juhi@05d861eca28c5c4:~$
```

juhi@05d861eca28c5c4: ~

```
echo "ENter the number:"
read n
num=$n
rev=0
while [ $n -gt 0 ]
do
    a=`expr $n % 10`
    n=`expr $n / 10`
    rev=`expr $rev \* 10 + $a`
done
echo $rev
if [ $num -eq $rev ]
then
    echo "The number is a palindrom!"
else
    echo "The number is not a palindrom number!"
fi
~
```

3. Array Sum

Select juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch arraySum.sh
juhi@05d861eca28c5c4:~$ vi arraySum.sh
juhi@05d861eca28c5c4:~$ chmod +x arraySum.sh
juhi@05d861eca28c5c4:~$ ./arraySum.sh
27
juhi@05d861eca28c5c4:~$
```

juhi@05d861eca28c5c4: ~

```
arr=(2 4 -5 9 12)
for (( i = 0; i <= ${#arr[*]}; i++ )); do
    if (( arr[i] > 0 )); then
        sum=`expr $sum + ${arr[i]}`
    fi
done
echo "$sum"
```

4. Reverse Number

juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch reverseNum.sh
juhi@05d861eca28c5c4:~$ vi reverseNum.sh
juhi@05d861eca28c5c4:~$ chomd +x reverseNum.sh
Command 'chomd' not found, did you mean:
  command 'chmod' from deb coreutils (9.4-2ubuntu2)
Try: sudo apt install <deb name>
juhi@05d861eca28c5c4:~$ chmod +x reverseNum.sh
juhi@05d861eca28c5c4:~$ ./reverseNum.sh
./reverseNum.sh: line 5: [: -gt: unary operator expected
Reverse Number is 0
juhi@05d861eca28c5c4:~$ vi reverseNum.sh
juhi@05d861eca28c5c4:~$ ./reverseNum.sh
./reverseNum.sh: line 5: [: -gt: unary operator expected
Reverse Number is 0
juhi@05d861eca28c5c4:~$ ./reverseNum.sh 56789
Reverse Number is 98765
juhi@05d861eca28c5c4:~$ ./reverseNum.sh 123455667788
Reverse Number is 887766554321
juhi@05d861eca28c5c4:~$
```

juhi@05d861eca28c5c4: ~

```
#!/bin/bash
n=$1
rev=0
sd=0
while [ $n -gt 0 ]
do
    sd=`expr $n % 10`
    rev=`expr $rev \* 10 + $sd`
    n=`expr $n / 10`
done
echo "Reverse Number is $rev"
```

5. Pascal Triangle

Select juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch pascalTriangle.sh
juhi@05d861eca28c5c4:~$ vi pascalTriangle.sh
juhi@05d861eca28c5c4:~$ chmod +x pascalTriangle.sh
juhi@05d861eca28c5c4:~$ ./pascalTriangle.sh
enter the no. of rows:
5
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
juhi@05d861eca28c5c4:~$ ./pascalTriangle.sh
enter the no. of rows:
3
      1
     1 1
    1 2 1
juhi@05d861eca28c5c4:~$
```

Select juhi@05d861eca28c5c4: ~

```
pastri()
{
    r=$1
    c=1
    for((i=0; i<r; i++))
    {
        for((s=1; s<r-i; s++))
        {
            echo -n " "
        }
        for((j=0; j<=i; j++))
        {
            if [ $j -eq 0 -o $i -eq 0 ]
            then
                c=1;
            else
                c=$((c*(i-j+1)/j))
            fi
            echo -n $c " "
        }
        echo
    }
    echo "enter the no. of rows:"
    read r
    pastri $r
}
```

6. Bubble Sort

juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch bubbleSort.sh
juhi@05d861eca28c5c4:~$ vi bubbleSort.sh
juhi@05d861eca28c5c4:~$ chmod +x bubbleSort.sh
juhi@05d861eca28c5c4:~$ ./bubbleSort.sh
Entered array:
10 8 20 100 12
Sorted arrays:
8 10 12 20 100
juhi@05d861eca28c5c4:~$ vi bubbleSort.sh
juhi@05d861eca28c5c4:~$ ./bubbleSort.sh
Entered array:
10 8 20 100 12
Sorted arrays:
8 10 12 20 100
juhi@05d861eca28c5c4:~$
```

Select juhi@05d861eca28c5c4: ~

```
declare -a arr
arr=(10 8 20 100 12)
echo "Entered array:"
echo ${arr[@]}
for ((i = 0; i < 5; i++))
do
    for((j = 0; j < 5-i-1; j++))
    do
        if [ ${arr[j]} -gt ${arr[$((j+1))]} ];
        then
            temp=${arr[j]}
            arr[j]=${arr[$((j+1))]}
            arr[$((j+1))]=$temp
        fi
    done
done
echo "Sorted arrays:"
echo ${arr[@]}
```

7. Printing Name

juhi@05d861eca28c5c4: ~

```
juhi@05d861eca28c5c4:~$ touch Personalizedmsg.sh
juhi@05d861eca28c5c4:~$ vi Personalizedmsg.sh
juhi@05d861eca28c5c4:~$ chmod +x Personalizedmsg.sh
juhi@05d861eca28c5c4:~$ ./Personalizedmsg.sh
Hello! What is your name?
Juhi Choudhary
Hello Juhi Choudhary! Welcome to the wolrd of shell scripting!
juhi@05d861eca28c5c4:~$
```

juhi@05d861eca28c5c4: ~

```
#!/bin/bash
echo "Hello! What is your name?"
read name
echo "Hello $name! Welcome to the wolrd of shell scripting!"
~
~
```