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SHELL SCRIPTING PROJECT

1. Sum of 2 inputs

```
karanamteja@334a7a24d06950c:~$ sudo nano sumof2.sh
karanamteja@334a7a24d06950c:~$ sudo cat sumof2.sh
read -p "input1 : " a
read -p "input2 : " b

if [[ -z $a ]]
then
echo "input 1 cannot be empty"
exit
fi

if [[ -z $b ]]
then
echo "input 2 cannot be empty"
exit
fi

bc_sum=`echo "$a + $b" | bc`
echo "bc_sum : $bc_sum"

sum=`expr $a + $b`
echo "sum : $sum"
karanamteja@334a7a24d06950c:~$ sudo nano sumof2.sh
karanamteja@334a7a24d06950c:~$ ./sumof2.sh
input1 : 5
input2 : 3
bc_sum : 8
sum : 8
karanamteja@334a7a24d06950c:~$ ./sumof2.sh
input1 :
input2 : 3
input 1 cannot be empty
karanamteja@334a7a24d06950c:~$ ./sumof2.sh
input1 : 3
input2 :
input 2 cannot be empty
```

2. Sum of elements in an array

```
karanamteja@334a7a24d06950c:~$ nano arraysum.sh
karanamteja@334a7a24d06950c:~$ ./arraysum.sh
-bash: ./arraysum.sh: Permission denied
karanamteja@334a7a24d06950c:~$ chmod +x arraysum.sh
karanamteja@334a7a24d06950c:~$ ./arraysum.sh
./arraysum.sh: line 1: syntax error near unexpected token `('
./arraysum.sh: line 1: `arr = (2 4 6 8 10)'
karanamteja@334a7a24d06950c:~$ nano arraysum.sh
karanamteja@334a7a24d06950c:~$ ./arraysum.sh
sum: '=': No such file or directory
sum: 2: No such file or directory
sum: '=': No such file or directory
sum: 4: No such file or directory
sum: '=': No such file or directory
sum: 6: No such file or directory
sum: '=': No such file or directory
sum: 8: No such file or directory
sum: '=': No such file or directory
sum: 10: No such file or directory
expr: syntax error: missing argument after '+'
sum: '=': No such file or directory

karanamteja@334a7a24d06950c:~$ nano arraysum.sh
karanamteja@334a7a24d06950c:~$ ./arraysum.sh
./arraysum.sh: line 5: 2: command not found
./arraysum.sh: line 5: 4: command not found
./arraysum.sh: line 5: 6: command not found
./arraysum.sh: line 5: 8: command not found
./arraysum.sh: line 5: 10: command not found
expr: syntax error: missing argument after '+'

karanamteja@334a7a24d06950c:~$ nano arraysum.sh
karanamteja@334a7a24d06950c:~$ ./arraysum.sh
expr: syntax error: missing argument after '+'

karanamteja@334a7a24d06950c:~$ nano arraysum.sh
karanamteja@334a7a24d06950c:~$ ./arraysum.sh
30
```

```
karanamteja@334a7a24d06950c:~$ cat arraysum.sh
arr=(2 4 6 8 10)
for (( i = 0; i <= ${#arr[*]}; i++ )); do
if (( arr[i] > 0)); then
sum=`expr $sum + ${arr[i]}`
fi
done
echo "$sum"

karanamteja@334a7a24d06950c:~$
```

3. palindrome

```
karanamteja@334a7a24d06950c:~$ ./palindrome.sh
enter a number :
12345
54321
The numver is not a palindrome
karanamteja@334a7a24d06950c:~$ ./palindrome.sh
enter a number :
12321
12321
The number is a palindrome
karanamteja@334a7a24d06950c:~$ cat palindrome.sh
echo "enter a number : "
read n
num=$n
rev=0

while [ $num -gt 0 ]
do
a=`expr $num % 10`
num=`expr $num / 10`
rev=`expr $rev \* 10 + $a`
done
echo $rev
if [ $n -eq $rev ]
then
echo "The number is a palindrome"
else
echo "The numver is not a palindrome"
fi
```

4. Reverse number

```
karanamteja@334a7a24d06950c:~$ vi reversenums.sh
karanamteja@334a7a24d06950c:~$ ./reversenums.sh
-bash: ./reversenums.sh: Permission denied
karanamteja@334a7a24d06950c:~$ chmod +x reversenums.sh
karanamteja@334a7a24d06950c:~$ ./reversenums.sh
enter a number :
123
reverse number is 321
karanamteja@334a7a24d06950c:~$ ./reversenums.sh
enter a number :
123456789
reverse number is 987654321
karanamteja@334a7a24d06950c:~$ cat reversenums.sh
echo "enter a number : "
read num
a=0
rev=0

while [ $num -gt 0 ]
do
    a=`expr $num % 10`
    num=`expr $num / 10`
    rev=`expr $rev \* 10 + $a`
done
echo "reverse number is $rev"
```

5. Pascal triangle

```
karanamteja@334a7a24d06950c:~$ chmod +x pascaltriangle.sh
karanamteja@334a7a24d06950c:~$ ./pascaltriangle.sh
enter the number of rows:
5
      1
     1 1
    1 2 1
   1 3 3 1
  1 4 6 4 1
karanamteja@334a7a24d06950c:~$ cat pascaltriangle.sh
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 number of rows:"
    read r
    pastri $r
}
```

6. Bubble sort

```
karanamteja@334a7a24d06950c:~$ vi bubblesort.sh
karanamteja@334a7a24d06950c:~$ chmod +x bubblesort.sh
karanamteja@334a7a24d06950c:~$ ./bubblesort.sh
Entered array:
101 80 26 105 12
Sorted array:
12 26 80 101 105
karanamteja@334a7a24d06950c:~$ cat bubblesort.sh
declare -a arr
arr=(101 80 26 105 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 array:"
echo ${arr[@]}
```

7. Your Scripts

```
karanamteja@334a7a24d06950c:~$ vi your_script.sh
karanamteja@334a7a24d06950c:~$ chmod +x your_script.sh
karanamteja@334a7a24d06950c:~$ ./your_script.sh
Hello! What's your name?
Teja
What is your role
Devops Engineer
Hello, Teja! Welcome to the world of shell scripting! Devops Engineer need this shell scripting concept.
karanamteja@334a7a24d06950c:~$ cat your_script.sh
echo "Hello! What's your name?"
read name

echo "What is your role"
read role

# Greet the user with a personalized message
echo "Hello, $name! Welcome to the world of shell scripting! $role need this shell scripting concept."
#
karanamteja@334a7a24d06950c:~$
```