



# EXPERIMENT - 5

## Operating Systems Lab

### AIM

To write the following shell programs:

- Script to check whether given string is palindrome.
- A script to calculate the average of n numbers.
- Script to find the sum of digits of a given number.

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## EXPERIMENT – 5

### Aim:

To write the following shell programs:

- A script to check whether the given string is a palindrome.
- A script to calculate the average of n numbers.
- A shell script to find the sum of digits of a given number.

### Source Code:

#### 1. A script to check whether the given string is a palindrome:

```
echo "Enter a String"
read input
reverse=""

len=${#input}
for (( i=$len-1; i>=0; i-- ))
do
    reverse="$reverse${input:$i:1}"
done
if [ $input == $reverse ]
then
    echo "$input is palindrome"
else
    echo "$input is not palindrome"
fi
```

### Output:

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./isPalindrome.sh
Enter a String
reeha
reeha is not palindrome
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./isPalindrome.sh
Enter a String
abcba
abcba is palindrome
reeha@Reeha:/mnt/e/sem 6/Operating Systems$
```

## 2. Write a script to calculate the average of n numbers

```
echo "Enter Size(N)"
read N

i=1
sum=0

echo "Enter Numbers"
while [ $i -le $N ]
do
    read num          #get number
    sum=$((sum + num)) #sum+=num
    i=$((i + 1))
done

echo "Average of given $N numbers is: "
avg=$((sum / N))
echo $avg
```

### Output:

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./average.sh
Enter Size(N)
5
Enter Numbers
10
20
30
40
50
Average of given 5 numbers is:
30
```

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./average.sh
Enter Size(N)
3
Enter Numbers
5
8
15
Average of given 3 numbers is:
9
```

### 3. Write a shell script to find the sum of digits of a given number:

```
echo "Enter a number"
```

```
read num
```

```
sum=0
```

```
while [ $num -gt 0 ]
```

```
do
```

```
    mod=$((num % 10)) #It will split each digits
```

```
    sum=$((sum + mod)) #Add each digit to sum
```

```
    num=$((num / 10)) #divide num by 10.
```

```
done
```

```
echo $sum
```

### Output:

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./digitSum.sh
Enter a number
123
6
```

```
reeha@Reeha:/mnt/e/sem 6/Operating Systems$ ./digitSum.sh
Enter a number
432849
Sum of Digits is: 30
```