

# 590029302\_Exp[5]Scriptlog

---

## Experiment [5]: [Shell Programming]

Name: Tanmay Amit Verma Roll.: 590029302 Date: 2025-10-05

### AIM:

- [To Learn Basic Conditional Statements in Bash Scripting]

### Requirements:

- [Any Linux Distro, any kind of text editor (vs code, vim, notepad, nano, etc)]

### Theory:

- [Basic usage of conditions and arrays in bash scripting.]

## Procedure & Observations

### Exercise 1: [Prime Number Check]

#### Task Statement:

- [To check if the number given by the user is a prime number or not.]

#### Explanation:

- [using if else loop wap to check if the number is a prime number or not.]

#### Command(s):

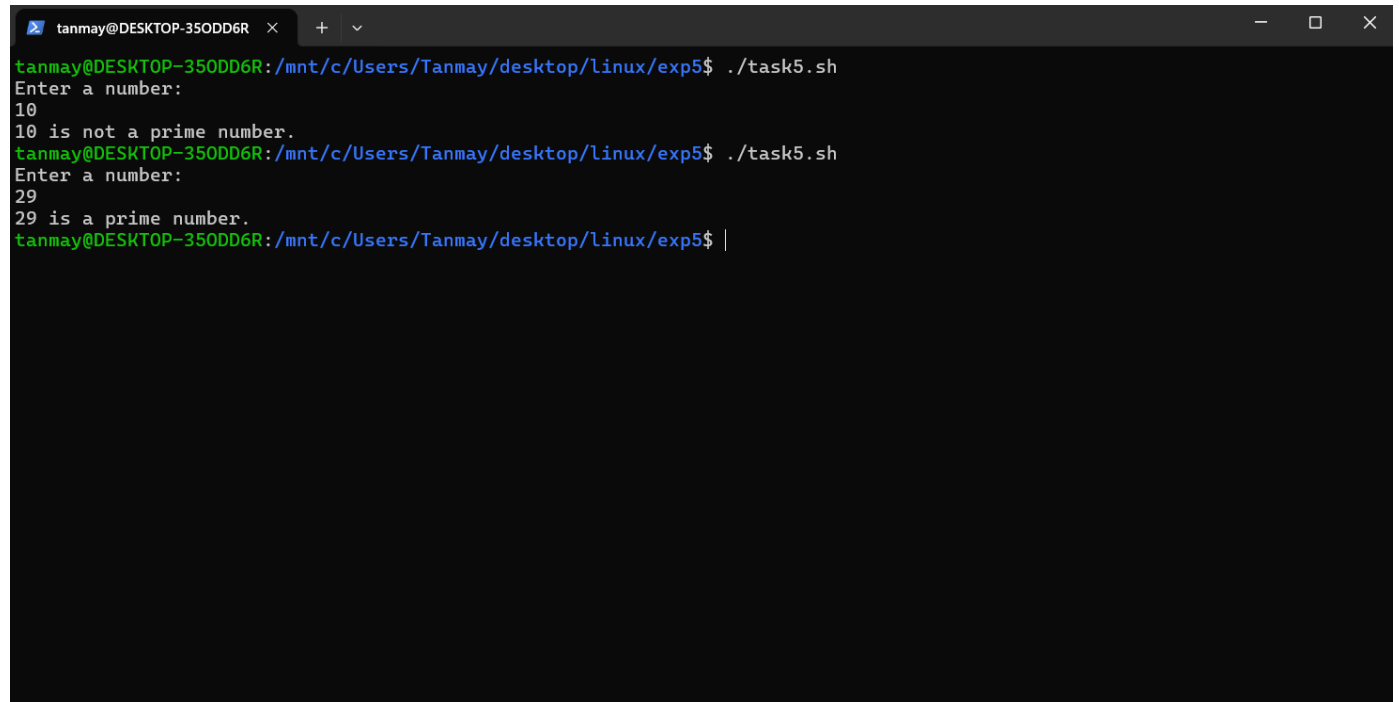
```
#!/bin/bash
echo "Enter a number: "
read num
flag=0

for ((i=2; i<num; i++))
do
    if [ $((num % i)) -eq 0 ]
    then
        flag=1
        break
    fi
done

if [ $flag -eq 0 ]
```

```
then
    echo "$num is a prime number."
else
    echo "$num is not a prime number."
fi
```

## Output:



A terminal window titled 'tanmay@DESKTOP-350DD6R' showing the execution of a script. The prompt is '/mnt/c/Users/Tanmay/desktop/linux/exp5\$ ./task5.sh'. The script prompts 'Enter a number:' and the user enters '10'. The output is '10 is not a prime number.'. The prompt is '/mnt/c/Users/Tanmay/desktop/linux/exp5\$ ./task5.sh'. The script prompts 'Enter a number:' and the user enters '29'. The output is '29 is a prime number.'. The prompt is '/mnt/c/Users/Tanmay/desktop/linux/exp5\$ |'.

```
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ ./task5.sh
Enter a number:
10
10 is not a prime number.
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ ./task5.sh
Enter a number:
29
29 is a prime number.
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ |
```

## Exercise 2: [Sum of Digits]

### Task Statement:

- [Take input from user and give the sum of two digits.]

### Explanation:

- [This script will take input from user and will give the following output.]

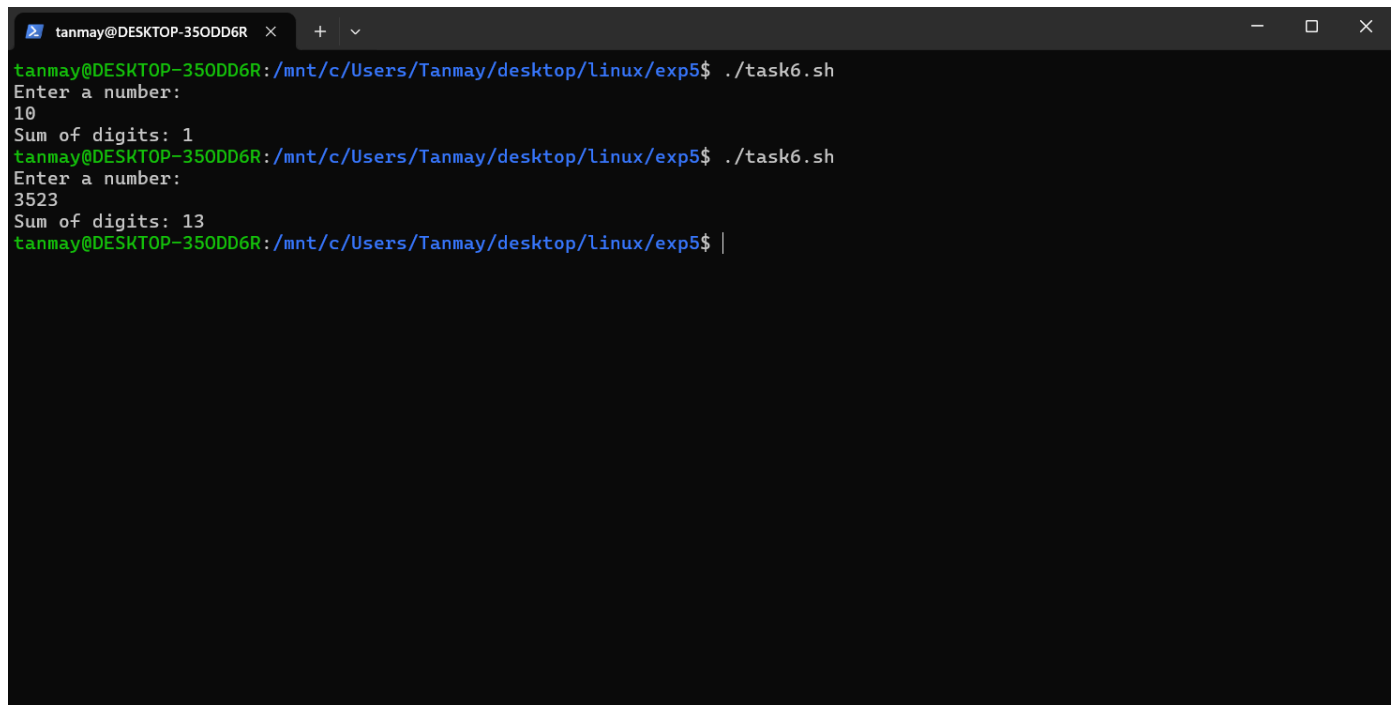
### Command(s):

```
#!/bin/bash
echo "Enter a number: "
read num
sum=0

while [ $num -gt 0 ]
do
    digit=$((num % 10))
    sum=$((sum + digit))
    num=$((num / 10))
done
```

```
echo "Sum of digits: $sum"
```

## Output:



```
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ ./task6.sh
Enter a number:
10
Sum of digits: 1
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ ./task6.sh
Enter a number:
3523
Sum of digits: 13
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ |
```

## Exercise 3: [Armstrong Numbers]

### Task Statement:

- [Take input user and give the sum of Armstrong number of n digits is a number equal to the sum of its digits raised to the power n. Example:  $153 = 1^3 + 5^3 + 3^3$  ]

### Explanation:

- [This script will tell if the number entered by the user is an armstrong number or not.]

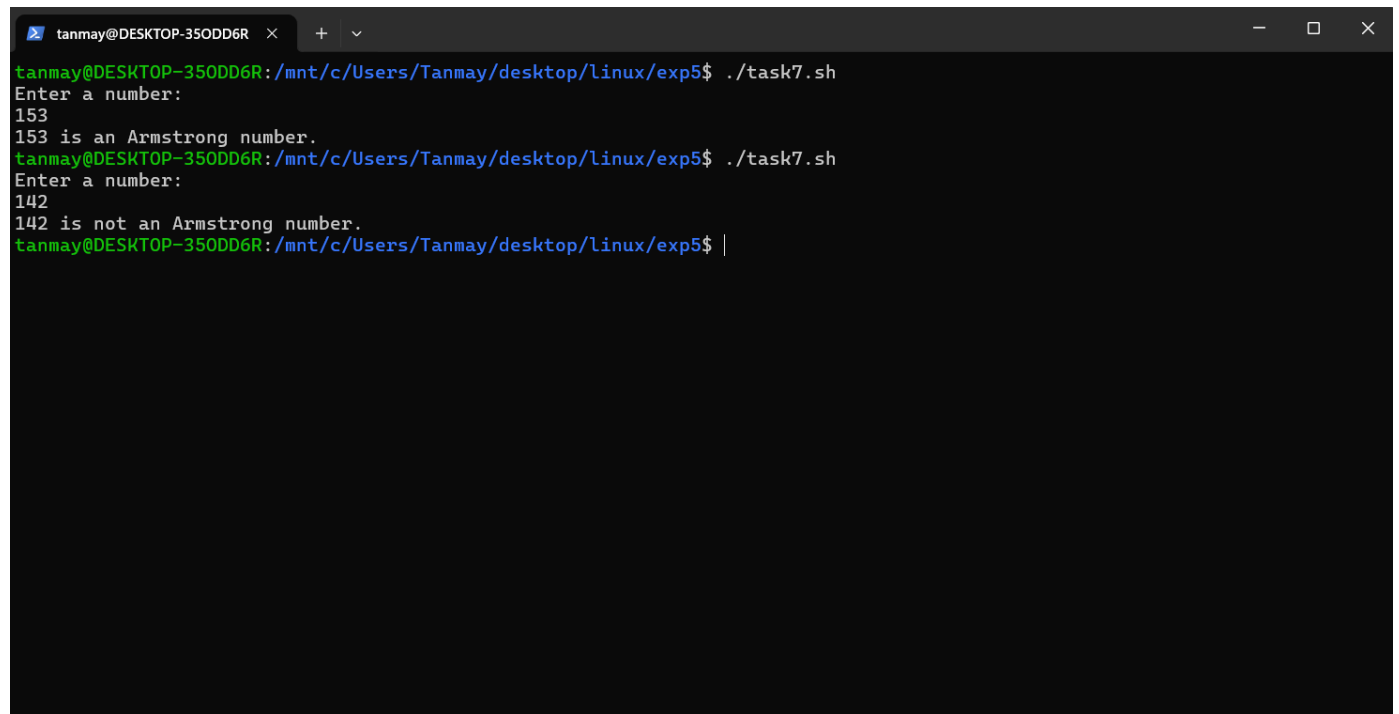
### Command(s):

```
#!/bin/bash
echo "Enter a number: "
read num
temp=$num
n=${#num}  # number of digits
sum=0

while [ $temp -gt 0 ]
do
    digit=$((temp % 10))
    sum=$((sum + digit**n))
    temp=$((temp / 10))
done
```

```
if [ $sum -eq $num ]
then
    echo "$num is an Armstrong number."
else
    echo "$num is not an Armstrong number."
fi
```

## Output:

A terminal window titled 'tanmay@DESKTOP-350DD6R' with standard window controls. The terminal shows the execution of a script './task7.sh' in two instances. In the first, the user enters '153' and the output is '153 is an Armstrong number.'. In the second, the user enters '142' and the output is '142 is not an Armstrong number.'. The prompt is '/mnt/c/Users/Tanmay/desktop/linux/exp5\$' and the cursor is at the end of the line.

```
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ ./task7.sh
Enter a number:
153
153 is an Armstrong number.
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ ./task7.sh
Enter a number:
142
142 is not an Armstrong number.
tanmay@DESKTOP-350DD6R: /mnt/c/Users/Tanmay/desktop/linux/exp5$ |
```

## Result:

- The Exercises were successfully completed for Basic Shell Scripting.