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| Experiment No. 2.3 |
|---|
| Write programs using Control structures in shell programming, Difference between while and until statement ,Looping statement . |

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**Branch:** 20IOT1      **Section/Group:** A

**Semester:** 3rd      **Date of Performance:**15/11/21

**Subject Name:**  OPERATING SYSTEM LAB      **Subject Code:** 21O-20CSP-232_20BIT-1_A

## 1. Aim/Overview of the practical:

Write programs using

a. Control structures in shell programming.

b. Difference between while and until statement.

c. Looping statement

## 2. Task to be done:

Understand and execute basic commands of shell script.

## 3. Apparatus:

- Laptop/PC
- Good internet connection
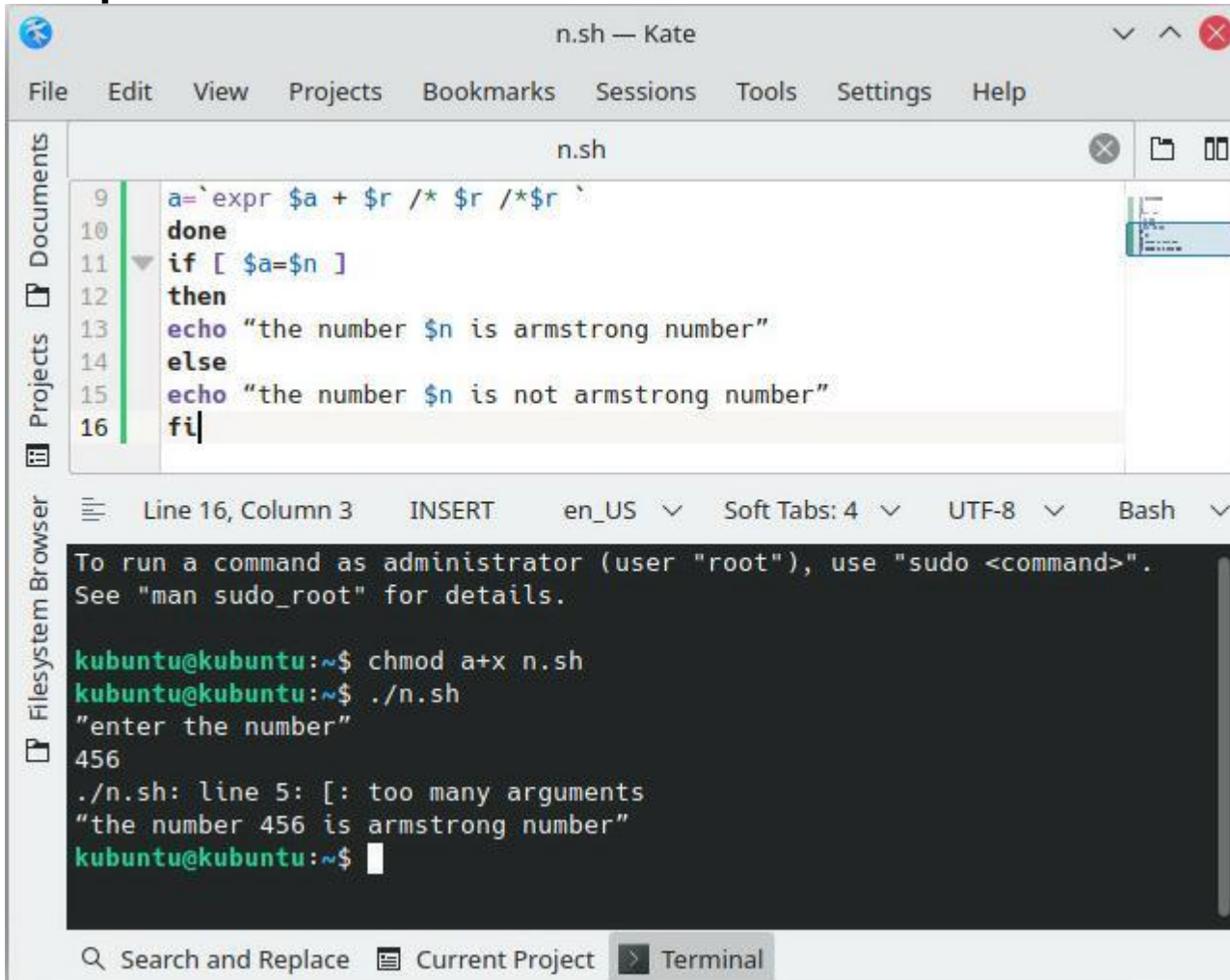- C language IDE
- UNIX system

# 4. CODE :

**1.Write a Program to check whether a number is an Amstrong Number or Not**

**Program code-**

```
echo "enter the
number"read n
q=$n
a=0
while [ $q – gt 0
]do
r= `expr $q % 10
`q= `expr $q / 10
`
a=`expr $a + $r /* $r /*$r
`done
if [ $a=$n
]then
echo "the number $n is armstrong number"
else
echo "the number $n is not armstrong
number"fi
```

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**Output-**

```
                              n.sh — Kate                        ∨  ∧  ⊗

File   Edit   View   Projects   Bookmarks   Sessions   Tools   Settings   Help

                              n.sh                                ⊗   ▭   ▯▯

  9     a=`expr $a + $r /* $r /*$r `
 10     done
 11  ▼  if [ $a=$n ]
 12     then
 13     echo "the number $n is armstrong number"
 14     else
 15     echo "the number $n is not armstrong number"
 16     fi

≡    Line 16, Column 3    INSERT    en_US ∨   Soft Tabs: 4 ∨   UTF-8 ∨   Bash ∨

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

kubuntu@kubuntu:~$ chmod a+x n.sh
kubuntu@kubuntu:~$ ./n.sh
"enter the number"
456
./n.sh: line 5: [: too many arguments
"the number 456 is armstrong number"
kubuntu@kubuntu:~$ █

Q Search and Replace   ▤ Current Project   ▶ Terminal
```

## 2. Write a Program to Check a Number is a Special Number or not.

**Program code-**

```bash
#  !/bin/bash
echo "Enter a number"
read no
i=1
ans=0
for i in 1 2 3 4 5 ..
nodo
```

```
if [[ $((no%i)) -eq 0
]]then
    ans=$((ans + i))
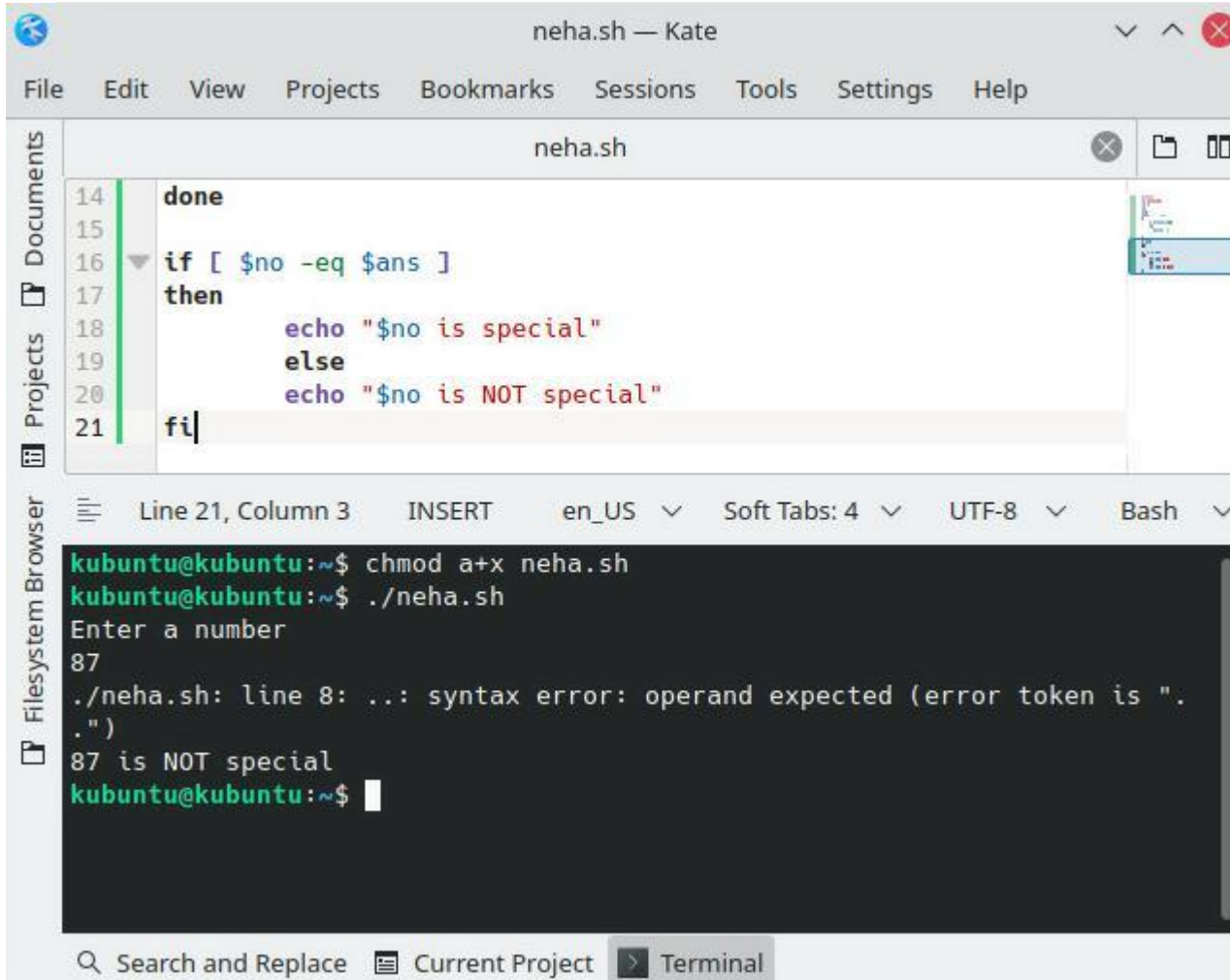```

```
fi
i=`expr $i + 1`
done


if [ $no -eq $ans
]then
        echo "$no is
        special"else
        echo "$no is NOT special"
fi
```

**Output-**

neha.sh — Kate

File   Edit   View   Projects   Bookmarks   Sessions   Tools   Settings   Help

neha.sh

```
14      done
15
16   ▼  if [ $no -eq $ans ]
17      then
18              echo "$no is special"
19              else
20              echo "$no is NOT special"
21      fi
```

Line 21, Column 3    INSERT    en_US ∨    Soft Tabs: 4 ∨    UTF-8 ∨    Bash ∨

```
kubuntu@kubuntu:~$ chmod a+x neha.sh
kubuntu@kubuntu:~$ ./neha.sh
Enter a number
87
./neha.sh: line 8: ..: syntax error: operand expected (error token is ".
.")
87 is NOT special
kubuntu@kubuntu:~$ 
```

🔍 Search and Replace    ▤ Current Project    ▶ Terminal

# 5.Result: Commands working successfully

**Learning outcomes (What I have learnt):**

      **1. Learn how to use different Linux commands like chmod ,echo, read command**

      **2. Understood and execute basic commands of shell script**

      **3. Applied the basic operations in shell script which are required for different**

      **applications.**

**Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):**

| Sr. No. | Parameters | Marks Obtained | Maximum Marks |
|---------|-----------|----------------|---------------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| | | | |