SRI KRISHNA
ARTS AND SCIENCE COLLEGE

Coimbatore-641 008

RECORD NOTE

DEPARTMENT: COMPUTER TECHNOLOGY AND DATA SCIENCE

NAME	REGISTER NUMBER

PROGRAMME: B.Sc COMPUTER TECHNOLOGY **CLASS:** III B.Sc CT-'A'

COURSE: PRACTICAL: LINUX PROGRAMMING

COURSE CODE: 22CTU39

SRI KRISHNA
ARTS AND SCIENCE COLLEGE

Coimbatore-641 008

REGISTER NUMBER:

Certified bonafide record of work done by_____

during the year 20**24**-20**25**

Staff-in-charge **Head of the Department**

Submitted to Sri Krishna Arts and Science College (Autonomous) End Semester Examination held on _____

Internal Examiner **External Examiner**

DECLARATION

I _____ hereby declare that this record of observations is based on the experiments carried out and recorded by me during the laboratory classes of **"PRACTICAL: LINUX PROGRAMMING"** conducted by SRI KRISHNA ARTS AND SCIENCE COLLEGE, Coimbatore- 641 008.

_____

Date: Signature of the student:

Name of the Student :

Roll Number :

_____

Countersigned by Staff

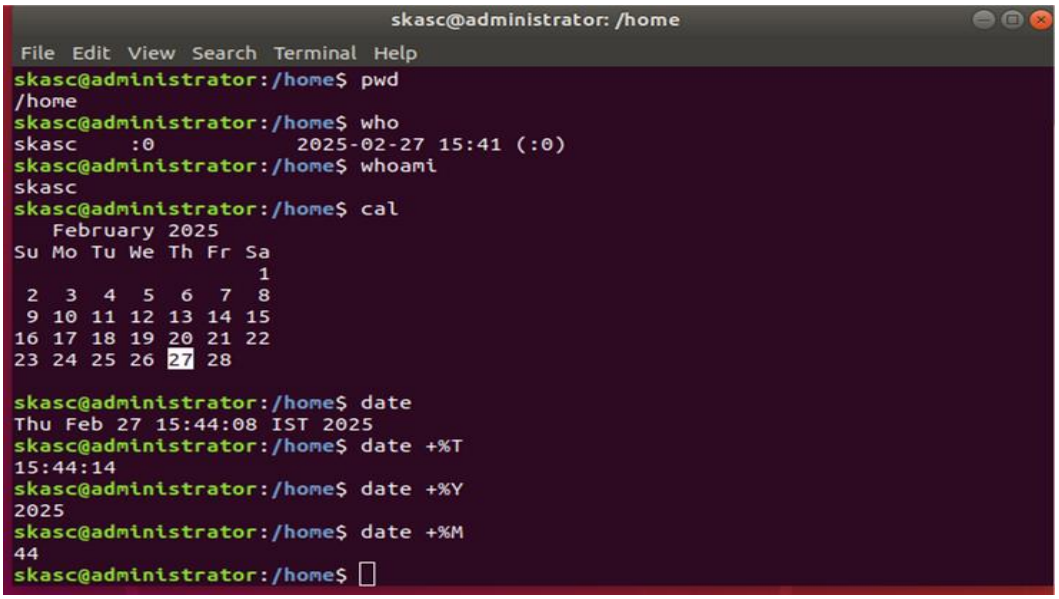
TABLE OF CONTENT

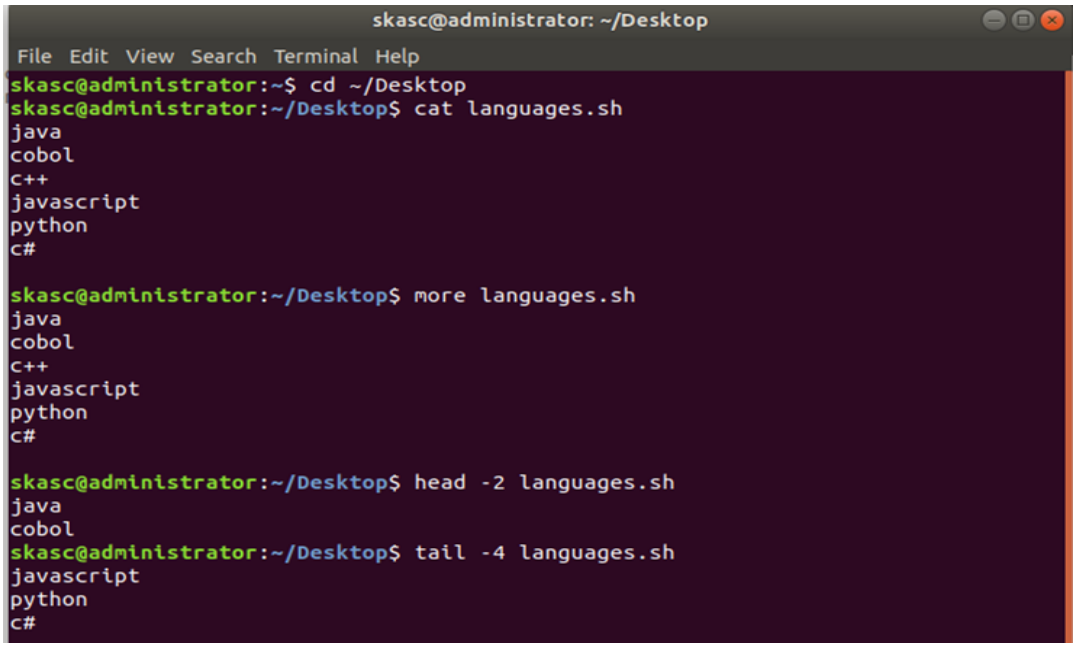
DATE:	**WRITE A LINUX PROGRAM USING BASIC SHELL COMMANDS**
EX NO: 01	

AIM:

ALGORITHM:

OUTPUT:





RESULT:

DATE:	**WRITE A LINUX PROGRAM USING TERMINAL NAVIGATION COMMANDS**
EX NO:02	

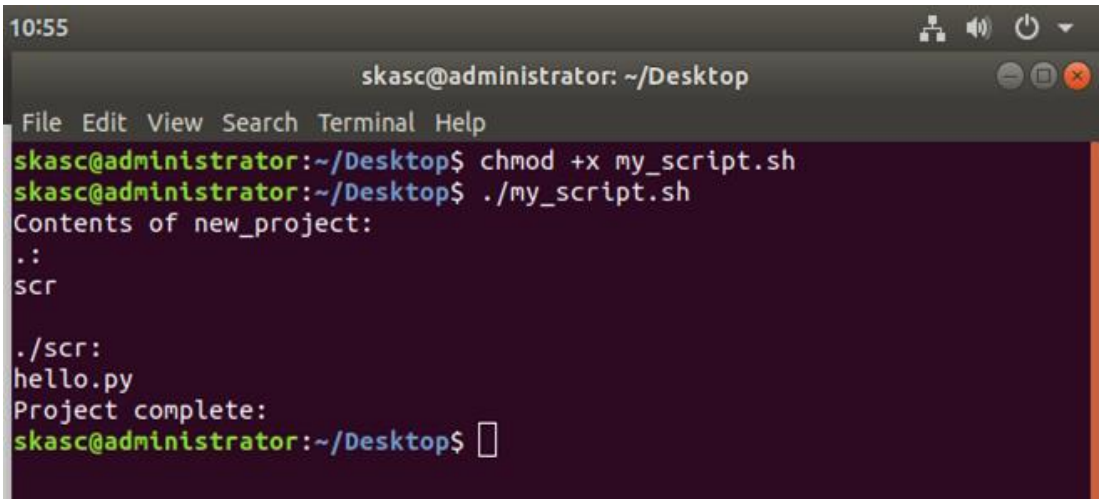
AIM:

ALGORITHM:

CODING:

```
#!/bin/bash
cd ~
mkdir new_project
cd new_project
mkdir scr
echo "print('Hello, World!')">scr/hello.py
echo "Contents of new_project:"
ls -R
echo "Project complete."
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING DIRECTORY MANIPULATION**
EX NO:03	

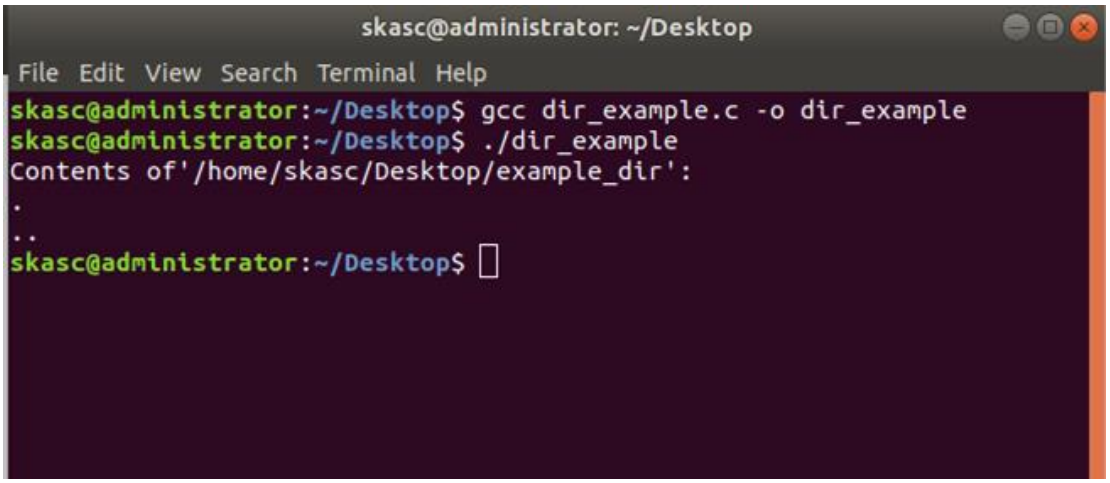
AIM:

ALGORITHM:

CODING:

```
#include <stdio.h>
#include <stdlib.h>
#include <sys/stat.h>
#include <unistd.h>
#include <dirent.h>
int main(){
        mkdir("example_dir",0755);
        chdir("example_dir");
        DIR *d=opendir(".");
        struct dirent*dir;
        printf("Contents of'%s':\n",getcwd(NULL,0));
        while((dir=readdir(d))!=NULL){
                printf("%s\n",dir->d_name);
        }
        closedir(d);
        return 0;
}
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING FILE COMMANDS**
EX NO:04	

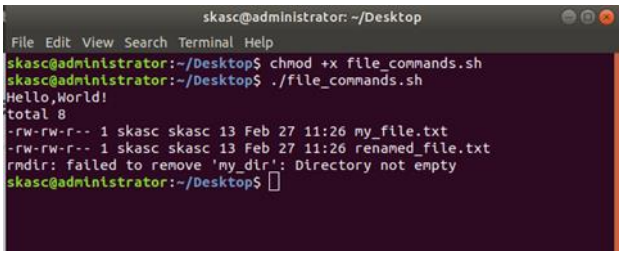
AIM:

ALGORITHM:

CODING:

```
#!/bin/bash
mkdir my_dir && cd my_dir
echo "Hello,World!"> my_file.txt
cat my_file.txt
cp my_file.txt my_file_copy.txt
mv my_file_copy.txt renamed_file.txt
ls -l
rm my_file.txt
cd .. && rmdir my_dir
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING CONDITIONAL EXECUTION COMMANDS**
EX NO:05	

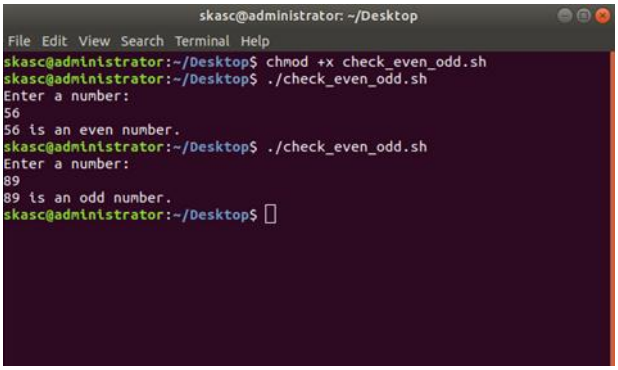
AIM:

ALGORITHM:

CODING:

```
#!/bin/bash
echo "Enter a number: "
read number
if [ $((number % 2)) -eq 0 ]; then # Check if the number is even or odd
   echo "$number is an even number."
else
   echo "$number is an odd number."
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING VARIABLES**
EX NO:06	

AIM:

ALGORITHM:

CODING:

```
name=""
age=0
echo "Enter your name:"
read name
echo "Enter your age:"
read age
echo "Hello, $name! You are $age years old."
```

OUTPUT:

RESULT:

DATE:	**WRITE A LINUX PROGRAM USING SCHEDULING TASKS**
EX NO:07	

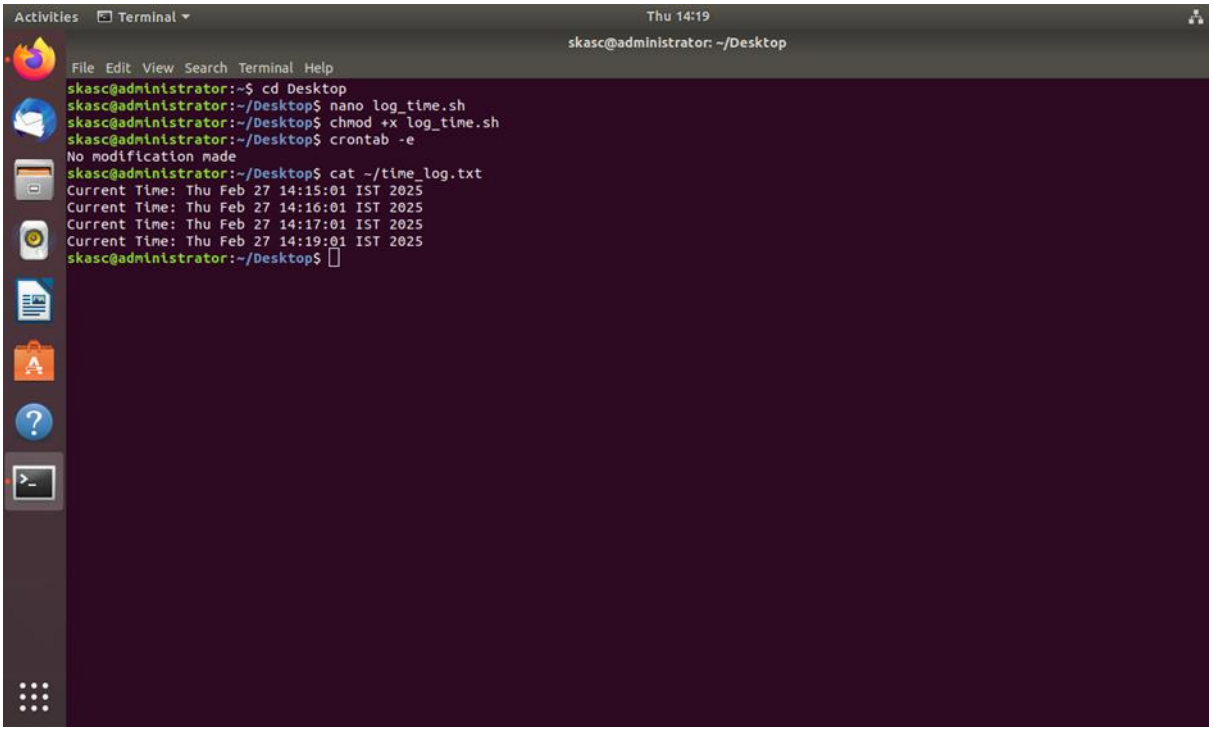
AIM:

ALGORITHM:

CODING:

```
#!/bin/bash

# Define the log file

LOG_FILE="$HOME/time_log.txt"

# Append the current date and time to the log file

echo "Current Time: $(date)" >> "$LOG_FILE"
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING ITERATION IN SHELL SCRIPT**
EX NO:08	

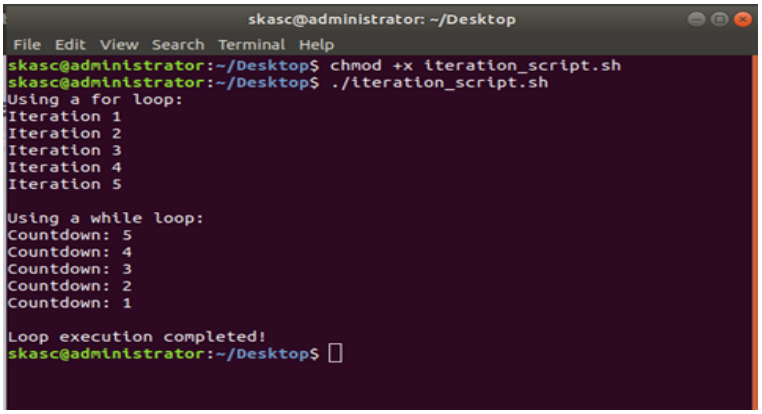
AIM:

ALGORITHM:

CODING:

```
#!/bin/bash
echo "Using a for loop:"
for i in {1..5}; do
echo "Iteration $i"
done
echo -e "\nUsing a while loop:"
# While loop example - Counting down from 5
count=5
while [ $count -gt 0 ]; do
echo "Countdown: $count"
((count--)) # Decrement the counter
done
echo -e "\nLoop execution completed!"
```

OUTPUT:



RESULT:

DATE:	**WRITE A BASH SHELL SCRIPT USING BACKGROUND PROCESS**
EX NO:09	

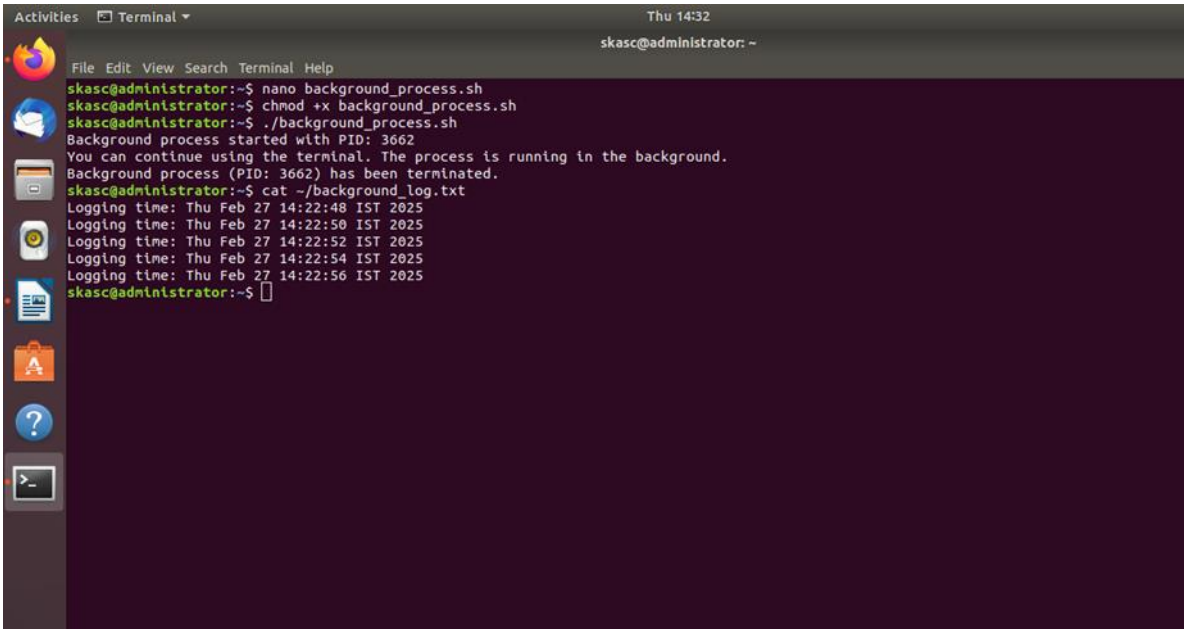
AIM:

ALGORITHM:

CODING:

```
#!/bin/bash
LOG_FILE="$HOME/background_log.txt"
log_time() {
  while true; do
    echo "Logging time: $(date)" >> "$LOG_FILE"
    sleep 2  # Pause for 2 seconds
  done
}
log_time &
BG_PID=$!
echo "Background process started with PID: $BG_PID"
echo "You can continue using the terminal. The process is running in the background."
sleep 10
kill $BG_PID
echo "Background process (PID: $BG_PID) has been terminated."
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING BASIC NETWORKING COMMAND**
EX NO:10	

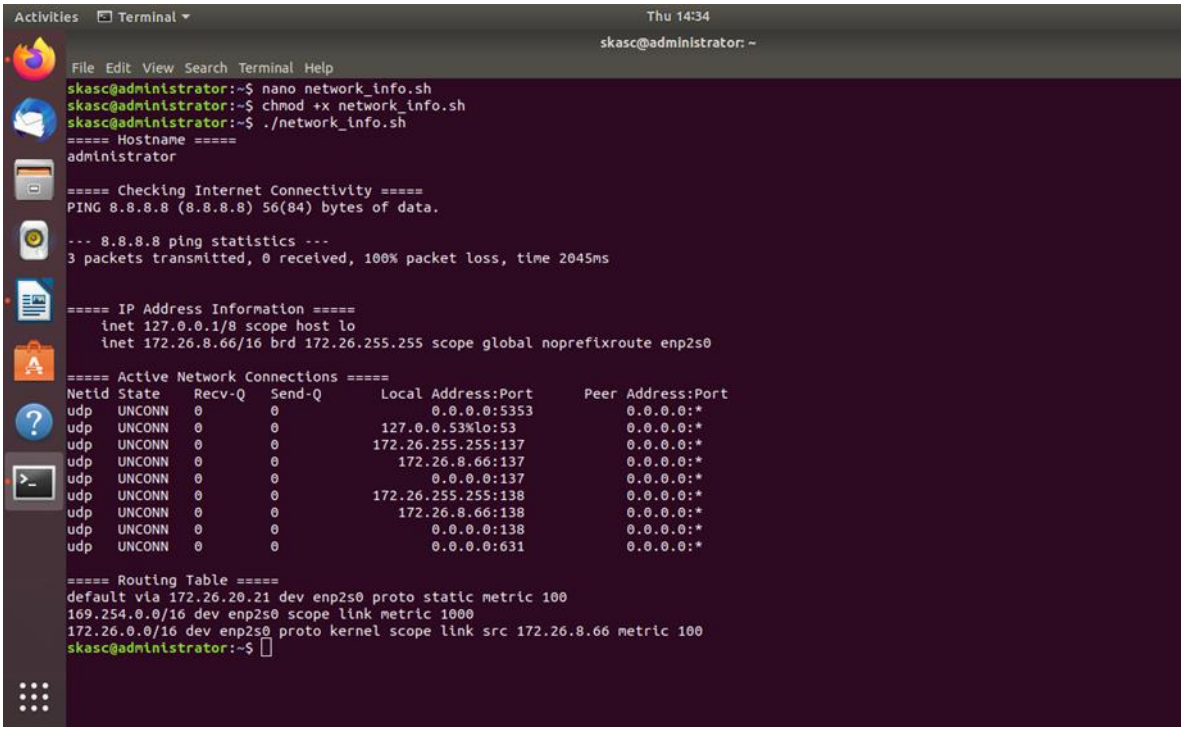
AIM:

ALGORITHM:

CODING

```
#!/bin/bash
echo "===== Hostname ====="
hostname
echo -e "\n===== Checking Internet Connectivity ====="
ping -c 3 8.8.8.8
echo -e "\n===== IP Address Information ====="
ip a | grep "inet "
echo -e "\n===== Active Network Connections ====="
ss -tulnp | head -10
echo -e "\n===== Routing Table ====="
ip route show
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING FILE TRANSFER PROTOCOL**
EX NO:11	

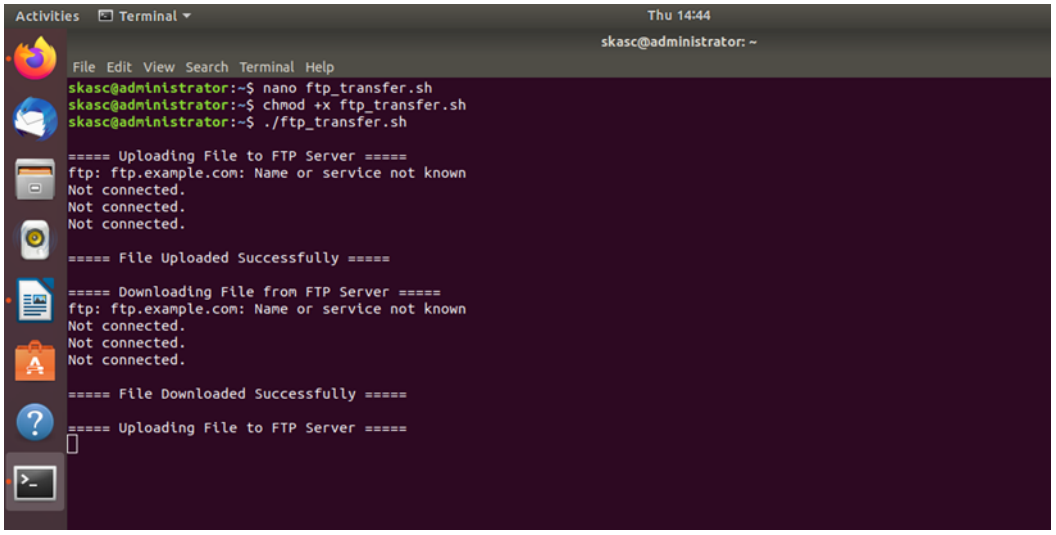
AIM:

ALGORITHM:

CODING

```
#!/bin/bash
FTP_SERVER="ftp.example.com"
FTP_USER="your_username"
FTP_PASS="your_password"
REMOTE_DIR="/remote/path/"
LOCAL_FILE="testfile.txt"
echo "This is a test file for FTP transfer." > $LOCAL_FILE
echo -e "\n===== Uploading File to FTP Server ====="
ftp -inv $FTP_SERVER <<EOF
user $FTP_USER $FTP_PASS
cd $REMOTE_DIR
put $LOCAL_FILE
bye
EOF
echo -e "\n===== File Uploaded Successfully ====="
echo -e "\n===== Downloading File from FTP Server ====="
ftp -inv $FTP_SERVER <<EOF
user $FTP_USER $FTP_PASS
cd $REMOTE_DIR
get $LOCAL_FILE downloaded_$LOCAL_FILE
bye
EOF
echo -e "\n===== File Downloaded Successfully ====="
```

OUTPUT:



RESULT:

DATE:	**WRITE A LINUX PROGRAM USING MAIL UTILITY**
EX NO:12	

AIM:

ALGORITHM:

CODING

```
#!/bin/bash
# Define email details
TO_EMAIL="recipient@example.com"
SUBJECT="Test Email from Linux"
BODY="Hello,\n\nThis is a test email sent from a Linux shell script using the mail utility.\n\nBest Regards,\nYour Linux Server"
# Send email
echo -e "$BODY" | mail -s "$SUBJECT" "$TO_EMAIL"
echo "Email has been sent successfully to $TO_EMAIL."
```

OUTPUT:

Email has been sent successfully to recipient@example.com.

If the recipient checks their email, they should see:

Subject: Test Email from Linux

Hello,

This is a test email sent from a Linux shell script using the mail utility.

Best Regards,

Your Linux Server

RESULT: