

# K.R. MANGALAMUNIVERSITY

*Course Name: Computer Science Fundamentals and Career Pathways*

*Course Code: ETCCCP105*

*Assignment Number 02: Basics of Linux and Open-Source Tools*

*Assignment Title: Cybersecurity, Automation, Linux Commands & Career Roadmap Assignment*

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*B.Tech CSE Core*

*Section A*

*Semester 1*

*Submitted to: Mr. Rajesh Kumar*

**This is My GitHub Link:-**

<https://github.com/mdshahjadms0786-sys/capstone-project-csf.git>

## STEP 1 — Computational Thinking in Action (CO1)

Automation System Selected: Study Planner with Task Reminder

### 1. Problem Definition

Students often forget their study deadlines, assignments, and exam preparation tasks. A Study Planner with Task Reminder system helps students store tasks, view upcoming deadlines, and receive reminders for tasks due today. This automation reduces stress, improves productivity, and ensures timely completion of academic work.

### 2. Algorithm (Pseudocode)

START

1. Load existing tasks from "tasks.json" file.
2. Display options to user: ADD, LIST, TODAY, COMPLETE, EXIT.
3. Read user choice.
4. IF choice = ADD THEN
  - a. Read task title, date, time, priority, notes.
  - b. Add task to task list.
  - c. Save updated list to tasks.json.
5. ELSE IF choice = LIST THEN
  - a. Sort tasks by date and priority.
  - b. Display all tasks.
6. ELSE IF choice = TODAY THEN
  - a. Get today's date.
  - b. Filter tasks that match today's date.
  - c. Display today's tasks.
  - d. Show reminder message.

7. ELSE IF choice = COMPLETE THEN

- a. Read task ID.
- b. Mark the task as completed.
- c. Save updated list.

8. ELSE IF choice = EXIT THEN

Stop program.

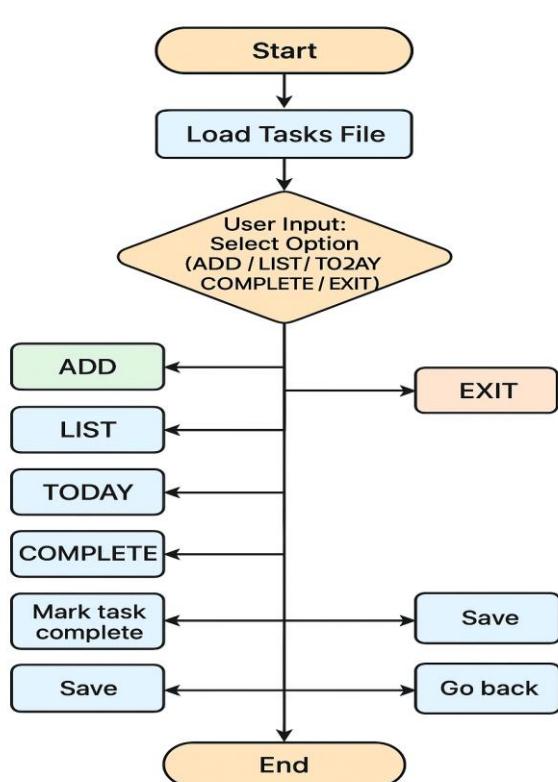
9. ELSE

Display "Invalid choice".

END

### 3. Flowchart

Flowchart Steps:



1. Start
2. Load Tasks File
3. User Input: Select Option (ADD / LIST / TODAY / COMPLETE / EXIT)
4. Decision: Which Option?
  - ADD: Take task details → Save task → Go back
  - LIST: Display all tasks → Go back
  - TODAY: Filter today's tasks → Show reminders → Go back
  - COMPLETE: Mark task complete → Save → Go back
  - EXIT: End program
5. End

## STEP 2 — Linux and Automation Practice (CO2)

### Part A: Linux Commands (10 Commands with Explanation)

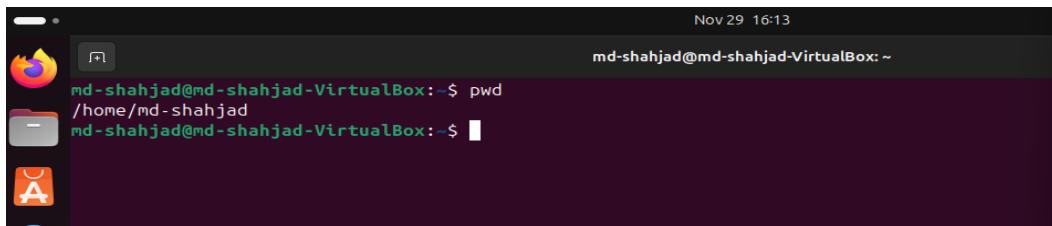
#### 1. pwd — Print Working Directory

**Use:** Shows the current folder location.

**Comment:**

```
# pwd shows your current path in the file system
```

**Screenshot:**



A screenshot of a terminal window on a Linux desktop. The window title is 'Terminal'. The terminal prompt is 'md-shahjad@md-shahjad-VirtualBox: ~'. The user has run the command 'pwd' which outputs '/home/md-shahjad'. There are icons for a browser, file manager, and terminal in the dock at the bottom.

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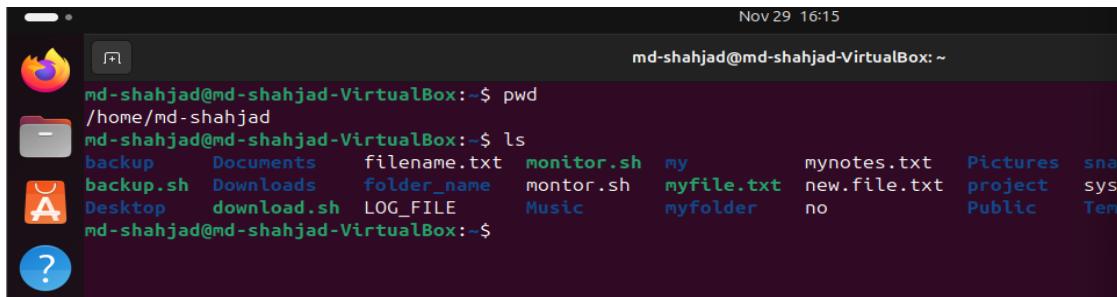
#### 2. ls — List Files and Directories

**Use:** Displays files/folders in the current directory.

**Comment:**

```
# ls lists all files and directories in the current folder
```

**Screenshot:**



A screenshot of a terminal window on a Linux desktop. The window title is 'Terminal'. The terminal prompt is 'md-shahjad@md-shahjad-VirtualBox: ~'. The user has run the command 'ls' which lists various files and directories including 'backup.sh', 'Documents', 'filename.txt', 'monitor.sh', 'my', 'mynotes.txt', 'Pictures', 'sna', 'backup.sh', 'Downloads', 'folder\_name', 'monitor.sh', 'myfile.txt', 'new.file.txt', 'project', 'sys', 'Desktop', 'download.sh', 'LOG\_FILE', 'Music', 'myfolder', 'no', 'Public', and 'Temp'. There are icons for a browser, file manager, terminal, and help in the dock at the bottom.

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#### 3. cd — Change Directory

**Use:** Navigate to another folder.

**Comment:**

```
# cd is used to move from one directory to another
```

**Screenshot:**



```
Desktop download.sh LOG_FILE Music myfolder no Public Tem
md-shahjad@md-shahjad-VirtualBox:~$ cd
md-shahjad@md-shahjad-VirtualBox:~$
```

---

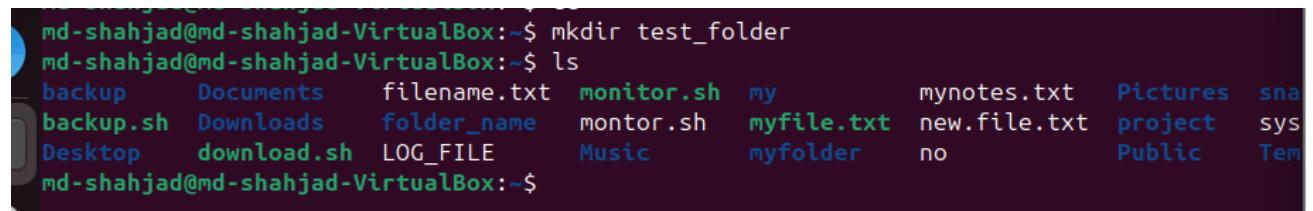
#### 4. mkdir — Make Directory

**Use:** Creates a new folder.

**Comment:**

```
# mkdir creates a new directory
```

**Screenshot:**



```
md-shahjad@md-shahjad-VirtualBox:~$ mkdir test_folder
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup Documents filename.txt monitor.sh my mynotes.txt Pictures sna
backup.sh Downloads folder_name montor.sh myfile.txt new.file.txt project sys
Desktop download.sh LOG_FILE Music myfolder no Public Tem
md-shahjad@md-shahjad-VirtualBox:~$
```

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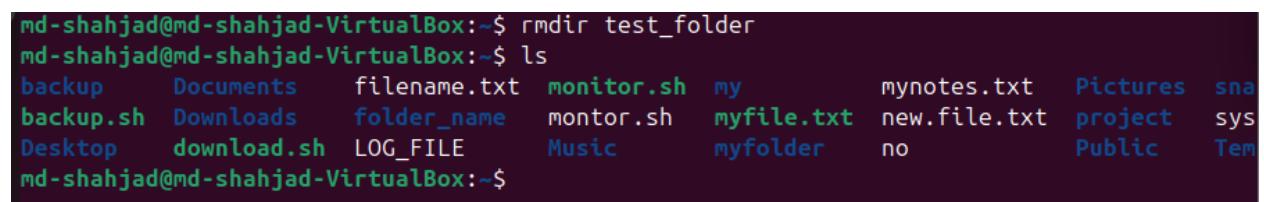
#### 5. rmdir — Remove Directory

**Use:** Deletes an empty folder.

**Comment:**

```
# rmdir removes an empty directory
```

**Screenshot:**



```
md-shahjad@md-shahjad-VirtualBox:~$ rmdir test_folder
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup Documents filename.txt monitor.sh my mynotes.txt Pictures sna
backup.sh Downloads folder_name montor.sh myfile.txt new.file.txt project sys
Desktop download.sh LOG_FILE Music myfolder no Public Tem
md-shahjad@md-shahjad-VirtualBox:~$
```

---

#### 6. touch — Create a New File

**Use:** Creates an empty file.

**Comment:**

```
# touch is used to create a new blank file
```

**Screenshot:**

```
md-shahjad@md-shahjad-VirtualBox:~$ touch notes.txt
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup    Documents    filename.txt  monitor.sh  my          mynotes.txt  notes.txt  Pu
backup.sh   Downloads   folder_name   monotor.sh  myfile.txt  new.file.txt  Pictures  sn
Desktop   download.sh  LOG_FILE     Music       myfolder    no           project    sys
md-shahjad@md-shahjad-VirtualBox:~$
```

---

## 7. rm — Remove File

**Use:** Deletes a file.

**Comment:**

```
# rm deletes a file permanently
```

**Screenshot:**

```
md-shahjad@md-shahjad-VirtualBox:~$ rm notes.txt
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup    Documents    filename.txt  monitor.sh  my          mynotes.txt  Pictures  sna
backup.sh   Downloads   folder_name   monotor.sh  myfile.txt  new.file.txt  project  sys
Desktop   download.sh  LOG_FILE     Music       myfolder    no           Public    Tem
md-shahjad@md-shahjad-VirtualBox:~$
```

---

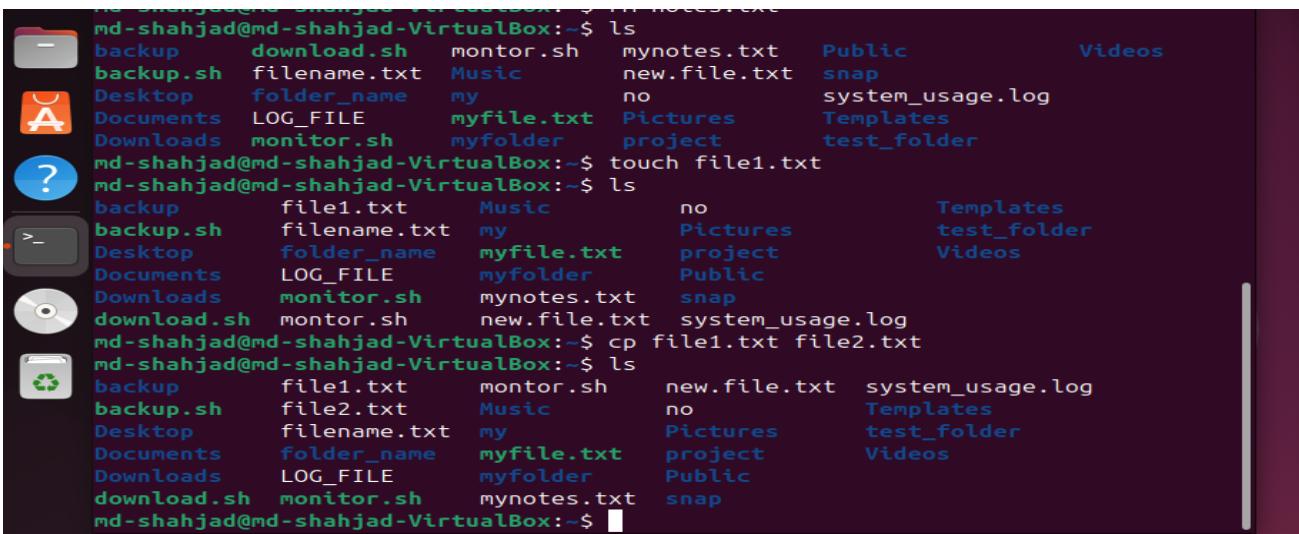
## 8. cp — Copy File/Folder

**Use:** Copies a file to another location.

**Comment:**

```
# cp copies files or folders
```

### Screenshot:



```
no changes were made to /home/MD-User/Downloads
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup    download.sh  monitor.sh  mynotes.txt  Public          Videos
backup.sh  filename.txt Music      new.file.txt  snap
Desktop   folder_name   my        no           system_usage.log
Documents LOG_FILE     myfile.txt Pictures    Templates
Downloads monitor.sh   myfolder   project    test_folder
md-shahjad@md-shahjad-VirtualBox:~$ touch file1.txt
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup    file1.txt    Music      no           Templates
backup.sh  file1.txt   filename.txt my          Pictures
Desktop   folder_name  folder_name myfile.txt  project
Documents LOG_FILE    myfolder   mynotes.txt snap
Downloads monitor.sh  monitor.sh new.file.txt system_usage.log
md-shahjad@md-shahjad-VirtualBox:~$ cp file1.txt file2.txt
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup    file1.txt    monitor.sh  new.file.txt  system_usage.log
backup.sh  file2.txt   Music      no           Templates
Desktop   filename.txt my        Pictures    test_folder
Documents LOG_FILE    myfolder   Public      Videos
Downloads monitor.sh  mynotes.txt snap
md-shahjad@md-shahjad-VirtualBox:~$
```

---

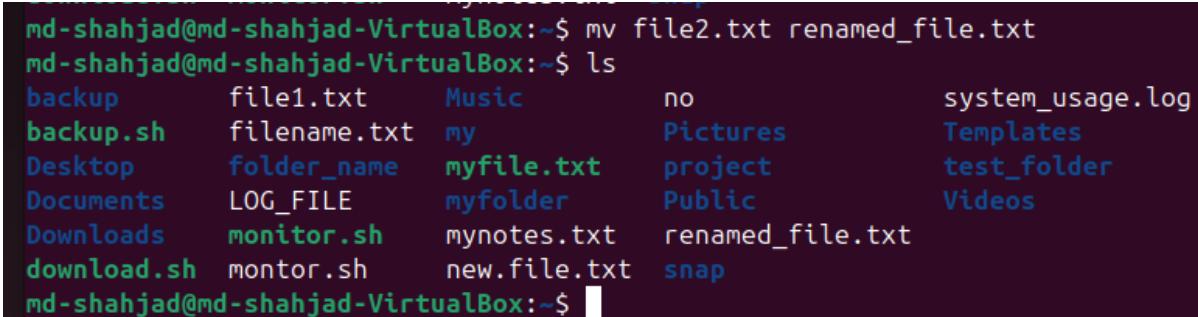
## 9. mv — Move or Rename File

**Use:** Moves OR renames a file.

**Comment:**

# mv is used to rename or move a file

### Screenshot:



```
md-shahjad@md-shahjad-VirtualBox:~$ mv file2.txt renamed_file.txt
md-shahjad@md-shahjad-VirtualBox:~$ ls
backup    file1.txt    Music      no           system_usage.log
backup.sh  file1.txt   filename.txt my          Pictures
Desktop   folder_name  folder_name myfile.txt  project
Documents LOG_FILE    myfolder   Public      Videos
Downloads monitor.sh  mynotes.txt renamed_file.txt
download.sh monitor.sh  monitor.sh new.file.txt snap
md-shahjad@md-shahjad-VirtualBox:~$
```

---

## 10. chmod — Change File Permissions

**Use:** Gives read/write/execute permissions.

**Comment:**

# chmod changes file permissions (r,w,x)

## Screenshot:

```
md-shahjed@md-shahjad-VirtualBox:~$ cp file1.txt file2.txt
md-shahjed@md-shahjad-VirtualBox:~$ ls
backup      file1.txt  monitor.sh  new_file.txt  system_usage.log
Backup.sh    file2.txt  Music       Pictures     test
Desktop    filename.txt  Pictures   project     test_folder
Documents   folder_name myfile.txt  project     Videos
Downloads   LOG_FILE   nyfolder   public
Downloads  monitor.sh  mynotes.txt snap
download.sh monitor.sh  mynotes.txt snap
md-shahjed@md-shahjad-VirtualBox:~$ mv file2.txt renamed_file.txt
md-shahjed@md-shahjad-VirtualBox:~$ ls
Backup.sh    file1.txt  monitor.sh  new_file.txt  system_usage.log
Backup.sh    filename.txt  Pictures   project     test
Desktop    folder_name myfile.txt  project     test_folder
Documents   LOG_FILE   nyfolder   public
Downloads  monitor.sh  mynotes.txt renamed_file.txt
download.sh monitor.sh  mynotes.txt snap
md-shahjed@md-shahjad-VirtualBox:~$ chmod +x demo.sh
md-shahjed@md-shahjad-VirtualBox:~$ ./demo.sh
md-shahjed@md-shahjad-VirtualBox:~$ ls -l
total 104
drwxr-xr-x  4 md-shahjad md-shahjad 4096 Nov 15 23:48 backup
-rw-rwxr--  1 md-shahjad md-shahjad  363 Nov 16 07:26 backup.sh
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 17:12 Desktop
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 17:12 Documents
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 17:12 Downloads
drwxr-xr-x  1 md-shahjad md-shahjad 297 Nov 16 08:15 download.sh
-rw-rw-r--  1 md-shahjad md-shahjad  9 Nov 29 19:27 file1.txt
-rw-rw-r--  1 md-shahjad md-shahjad  9 Nov 15 18:18 filename.txt
drwxr-xr-x  4 md-shahjad md-shahjad 4096 Nov 15 17:12 Pictures
-rw-rw-r--  1 md-shahjad md-shahjad 562 Nov 16 07:41 LOGFILE
-rwxrwxr-x  1 md-shahjad md-shahjad 449 Nov 16 07:41 monitor.sh
-rw-rw-r--  1 md-shahjad md-shahjad  9 Nov 16 07:46 monitor.sh
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 17:12 music
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 17:58 my
-rwxrwxr--  1 md-shahjad md-shahjad 4096 Nov 15 18:15 NYFILE.txt
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 18:15 NYFOLDER
-rw-rw-r--  1 md-shahjad md-shahjad 47 Nov 15 18:30 mynotes.txt
-rw-rw-r--  1 md-shahjad md-shahjad  9 Nov 15 18:30 new_file.txt
drwxr-xr-x  1 md-shahjad md-shahjad 55 Nov 15 19:31 no
drwxr-xr-x  3 md-shahjad md-shahjad 4096 Nov 15 17:38 pictures
drwxr-xr-x  2 md-shahjad md-shahjad 4096 Nov 15 17:58 project
drwxr-xr-x  4 md-shahjad md-shahjad 4096 Nov 15 17:58 test
-rw-rw-r--  1 md-shahjad md-shahjad  9 Nov 29 19:20 renamed_file.txt
drwxr-xr-x  5 md-shahjad md-shahjad 4096 Nov 16 08:12 test
-rw-rw-r--  1 md-shahjad md-shahjad 13813 Nov 16 07:44 system_usage.log
```



## Bash Script: Auto Create Study Planner Folder Structure

### ★ Part B – Bash Script Automation

#### Explanation of Commands Used:

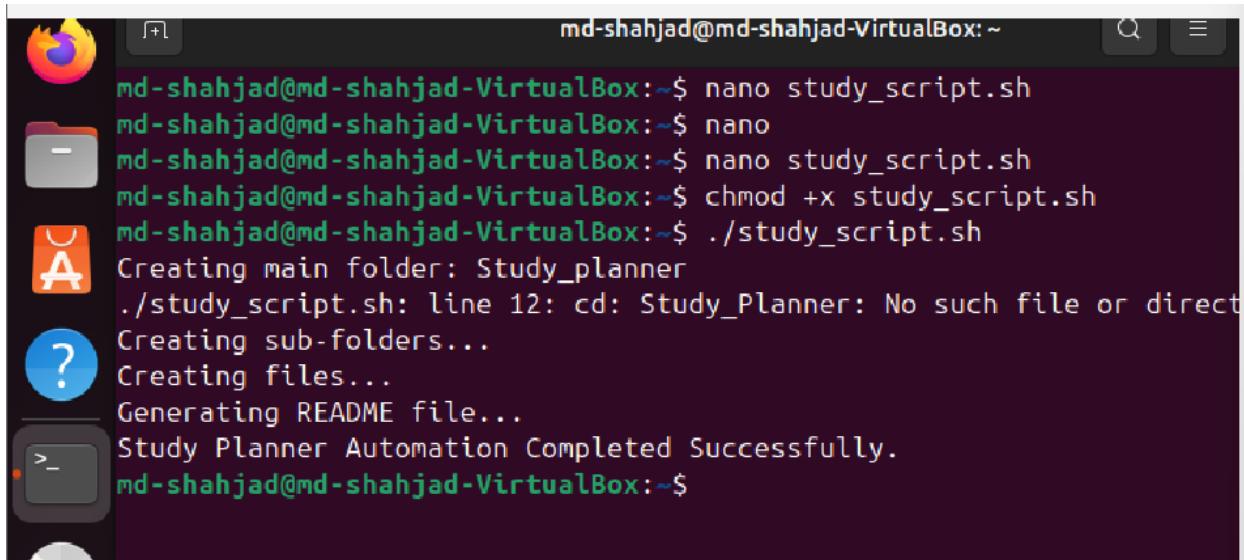
mkdir → folder create karta hai

cd → folder ke andar jata hai

touch → empty file create karta hai

echo → terminal par message print karta hai

> → echo ka output file me save karta hai



A screenshot of a Linux desktop environment, likely Ubuntu, showing a terminal window. The terminal window has a dark background and contains the following command-line session:

```
md-shahjad@md-shahjad-VirtualBox:~$ nano study_script.sh
md-shahjad@md-shahjad-VirtualBox:~$ nano
md-shahjad@md-shahjad-VirtualBox:~$ nano study_script.sh
md-shahjad@md-shahjad-VirtualBox:~$ chmod +x study_script.sh
md-shahjad@md-shahjad-VirtualBox:~$ ./study_script.sh
Creating main folder: Study_planner
./study_script.sh: line 12: cd: Study_Planner: No such file or directory
Creating sub-folders...
Creating files...
Generating README file...
Study Planner Automation Completed Successfully.
md-shahjad@md-shahjad-VirtualBox:~$
```

```
#Create sub-folder
echo "Creating sub-folders..."
mkdir Tasks Completed Notes Reminders

#Create important files
echo "Creating files..."
touch tasks.txt
touch remainder_log.txt

#Create README with instructions
echo "Generating README file..."
echo "This folder structure is created automatically using a Bash script." > README.txt
tasks.txt -> Add all pending tasks.
today.txt -> Write today's tasks.
remainder_log.txt -> Store reminder history." >> README.txt

#Show final message
echo "Study Planner Automation Completed Successfully."
[

^G Help      ^O Write Out  ^W Where Is   ^K Cut       ^T Execute  ^C L
^X Exit      ^R Read File  ^\ Replace    ^U Paste    ^J Justify  ^/ C
```

## ★ STEP 3 – Emerging Technology Domain (CO3)

### Selected Domain: Cybersecurity

#### ❖ 1. Technology Overview (Word me heading)

Cybersecurity is the practice of protecting computers, networks, applications, and data from cyberattacks.

It includes techniques and tools used to prevent unauthorized access, detect threats, and respond to security incidents.

Modern cybersecurity focuses on:

- Network Security
- Ethical Hacking & Penetration Testing
- Cloud Security
- Application Security
- Digital Forensics

- Risk & Compliance
- Malware Analysis

Cybersecurity ensures Confidentiality, Integrity, and Availability (CIA Triad).

## **2. Job Roles in Cybersecurity**

### **1. Cybersecurity Analyst**

- Monitors security systems
- Investigates threats
- Salary: ₹5–15 LPA

### **2. Penetration Tester (Ethical Hacker)**

- Performs controlled attacks
- Finds vulnerabilities
- Salary: ₹6–20 LPA

### **3. Security Operations Center (SOC) Analyst**

- 24x7 monitoring
- Incident response
- Salary: ₹4–10 LPA

### **4. Cloud Security Engineer**

- Secures cloud (AWS, Azure, GCP)
- Salary: ₹10–30 LPA

### **5. Cybersecurity Consultant**

- Advises companies
  - Performs audits
  - Salary: ₹12–35 LPA
-

### 3. Salary Trends (India)

Job Role	Average Salary (INR)
Cybersecurity Analyst	₹6–8 LPA
Ethical Hacker	₹8–12 LPA
SOC Analyst	₹4–7 LPA
Cloud Security Engineer	₹15–30 LPA
Security Architect	₹20–40 LPA

Note: Salary depends on experience, certifications, skills, and company.

### 4. Relevant Certifications

#### 1. CEH (Certified Ethical Hacker)

- Provider: EC-Council
- Duration: 4–6 months
- Skills: Ethical hacking, testing, vulnerabilities
- Aligns with: Penetration Testing Career Path

#### 2. CompTIA Security+

- Provider: CompTIA
- Duration: 2–3 months
- Skills: Network security, threats, access control
- Aligns with: Cybersecurity Analyst / SOC Analyst roles

#### 3. Google Cybersecurity Professional Certificate

- Provider: Google/Coursera
- Duration: 3–6 months
- Skills: SOC fundamentals, SIEM, Linux basics

#### 4. Cisco CCNA (Security Focus)

- Provider: Cisco
  - Duration: 2–4 months
  - Skills: Network security, routing, firewall management
- 

## **IN 5. Indian Startup Using Cybersecurity**

### **Startup: Lucideus (Now SAFE Security)**

- Indian cybersecurity company
  - Provides AI-based risk assessment
  - Works with banks, IT companies, and government
  - Founders: Saket Modi
  - Achievements: Global expansion, Fortune 500 clients
- 

## **★ STEP 4 – Part 1: SMART Goals**

### **SMART Goals (Short-Term, Medium-Term, Long-Term)**

#### **1. Short-Term SMART Goal (0–6 Months)**

##### **Goal:**

Learn basic cybersecurity concepts and tools including Linux commands, Networking fundamentals, and OWASP Top 10 within the next 4 months.

##### **SMART Breakdown:**

- S (Specific): Learn Linux, Networking, OWASP Top 10
  - M (Measurable): Complete at least 3 hands-on labs
  - A (Achievable): Free resources (TryHackMe, YouTube, Coursera)
  - R (Relevant): Directly needed for cybersecurity foundation
  - T (Time-bound): Complete in 4 months
- 

#### **2. Medium-Term SMART Goal (6–12 Months)**

**Goal:**

Complete Google Cybersecurity Professional Certificate and build 2 cybersecurity mini-projects within 10 months.

**SMART Breakdown:**

- **S:** Finish Google Cybersecurity course
  - **M:** 2 projects completed
  - **A:** Study 1 hour daily
  - **R:** Helps in SOC Analyst role
  - **T:** 10 months
- 

**3. Long-Term SMART Goal (1–3 Years)****Goal:**

Become a certified Ethical Hacker (CEH) and secure an internship in a cybersecurity company by the end of 3rd year.

**SMART Breakdown:**

- **S:** CEH exam preparation + internship
- **M:** One internship + certification
- **A:** Build portfolio + GitHub projects
- **R:** Relevant to penetration testing career
- **T:** 3 years

## ★ STEP 4 – Part 2: Certification Research

**Certification 1: Google Cybersecurity Professional Certificate**

- **Provider:** Google (via Coursera)
- **Duration:** 3–6 months
- **Cost:** Around ₹1,000–1,500 per month (Coursera subscription)
- **Skills Covered:**
  - SOC tools

- SIEM basics
- Linux
- Incident response
- Risk assessment
- **Why Relevant:**  
Aligns with medium-term SMART goal of becoming a SOC Analyst and building cybersecurity fundamentals.

### **Certification 2: CEH – Certified Ethical Hacker**

- **Provider:** EC-Council
- **Duration:** 4–6 months preparation
- **Cost:** ₹40,000–₹60,000 (approx. Indian cost)
- **Skills Covered:**
  - Penetration testing
  - Footprinting
  - Vulnerability scanning
  - Exploitation
  - Malware concepts
- **Why Relevant:**  
Helps in long-term SMART goal of becoming a penetration tester or ethical hacker.

## **Next: LinkedIn Update Section (Part 3)**

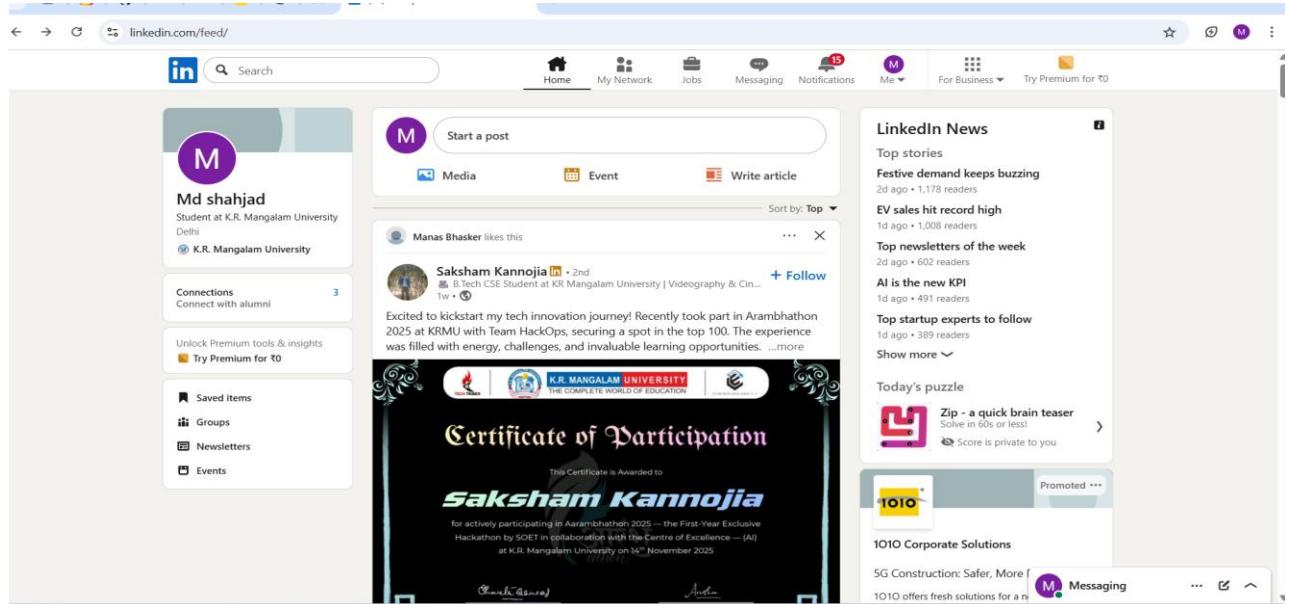
### **STEP 4 – Part 3: LinkedIn Profile Update**

#### **Actions Completed:**

- Added professional profile picture
- Updated About/Summary section
- Added education (B.Tech CSE – AI & Robotics)
- Added minimum 3 skills: Linux, Networking, Cybersecurity

- Added CV / Resume
- Updated LinkedIn URL

### Screenshot to insert:



## ★ STEP 4 – Part 4: Hackathon / Contest / Open Source Plan

### Hackathon / Contest Participation Plan

**Hackathon Chosen:** Smart India Hackathon (SIH) / Any local college hackathon

**Status:** Planning / Will Register

#### Preparation Steps:

- Build strong team of 4
- Select cybersecurity problem statement
- Learn Linux, Networking, and basic cryptography
- Practice on TryHackMe / HackTheBox
- Prepare demo presentation

## ★ STEP 4 – Part 5: Career Roadmap (500–800 Words)

### Career Roadmap – Cybersecurity

Cybersecurity is one of the fastest-growing fields in the world due to the rise of digital platforms, online banking, cloud technologies, and increasing cyber threats. My goal is to build a strong career in cybersecurity by developing both technical skills and hands-on experience over the next three years of my B.Tech degree. The following roadmap explains the step-by-step journey I will follow to become a skilled cybersecurity professional.

## 1. Foundation Stage (Year 1)

The first step in my cybersecurity career is to build a strong foundation in basic computer science and networking concepts. During Year 1, I will focus on learning Linux commands, basic networking concepts (like OSI model, TCP/IP, IP addressing), and understanding how the internet works. These skills are essential for every cybersecurity beginner.

I will also start learning Python because it is widely used in automation, penetration testing scripts, and security tools. I will practice simple programs like file handling, string operations, and basic automation scripts.

In addition, I will begin my cybersecurity journey with platforms like **TryHackMe** and complete beginner-level labs such as “Introduction to Cybersecurity,” “Linux Fundamentals,” and “Network Fundamentals.” These hands-on labs will help me understand real-time attacks and security tools.

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## 2. Skill Development Stage (Year 2)

In the second year, I will move towards intermediate cybersecurity concepts. My major focus will be on:

- Vulnerability scanning
- Web application security
- SQL injection basics
- Password attacks
- Basics of ethical hacking

To enhance my knowledge, I will enroll in the **Google Cybersecurity Professional Certificate**, which will teach me SOC tools, incident response, SIEM platforms, and log analysis.

Completing this certification will align with my SMART Goal for the year.

During this stage, I will also start building small projects like:

- Simple password generator
- Log analyzer tool

- Secure folder system in Linux
- Basic port scanner using Python

I will upload these projects on GitHub to build a strong portfolio.

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### **3. Practical Exposure Stage (Year 2–3)**

Cybersecurity requires hands-on knowledge, so I will participate in hackathons, coding contests, and cybersecurity competitions. Participating in the **Smart India Hackathon (SIH)** will give me real-world experience in team collaboration and problem-solving.

I will also join online cybersecurity communities and attend webinars from companies like Palo Alto, Fortinet, and EC-Council to keep myself updated with new threats.

By the end of this stage, I will apply for internships using platforms like LinkedIn, Internshala, and campus placement portals. Even a small internship as a **SOC Analyst Intern** will give me practical industry experience.

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### **4. Advanced Skill Stage (Year 3)**

Once I have strong basics and a few hands-on projects, I will prepare for the **Certified Ethical Hacker (CEH)** exam. This certification aligns with my long-term SMART goal and will help me become a penetration tester.

I will master advanced topics such as:

- Metasploit
- Burp Suite
- Wireshark
- Web application penetration testing
- Cryptography basics
- Malware analysis

During this stage, I will also contribute to open-source cybersecurity tools or bug bounty programs to gain real attack-and-defense experience.

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### **5. Career Launch Stage (End of Year 3 / Start of Year 4)**

Before completing B.Tech, I will apply for roles like:

- SOC Analyst
- Cybersecurity Analyst
- Junior Penetration Tester
- Network Security Engineer
- Information Security Intern

With my certifications, GitHub projects, internship experience, and LinkedIn profile, I will be in a strong position to launch my professional cybersecurity career.

## **STEP 5 – Reflection & Learning Summary (Final Part – CO5)**

### **Reflection and Learning Summary**

During the completion of this assignment, I gained valuable hands-on experience in automation, Linux commands, scripting, and understanding emerging technologies. This assignment helped me explore practical technical skills along with career planning and professional readiness.

In **Step 1**, I learned how to visualize a process using a flowchart, which improved my logical thinking and understanding of step-by-step workflows.

In **Step 2**, I practiced essential Linux commands like pwd, ls, cd, mkdir, and touch. I also learned how to create and run a Bash script in Ubuntu. This improved my confidence in using the Linux terminal and understanding how automation can reduce manual work.

In **Step 3**, I explored the field of **Cybersecurity**, which is one of the fastest-growing domains today. I learned about job roles, required skills, salary trends, Indian startups, and important certifications. This step gave me clarity about future opportunities and helped me decide my interest area.

In **Step 4**, I created SMART goals, researched industry-recognized certifications, updated my LinkedIn profile, and planned for hackathons. Writing the career roadmap helped me understand what I need to do in the next 1–3 years to become a cybersecurity professional.

Overall, this assignment helped me improve my technical knowledge, planning skills, and career direction. I now have a clearer understanding of my strengths and the areas I need to develop. This assignment has motivated me to continue learning through online platforms, practical labs, and cybersecurity projects. I feel more confident and aware of how to build a successful career in the technical domain.

