**1. Generate Pattern (\*, \*\*, etc.):**

**Script**:

bash

Copy code

#!/bin/bash

for ((i = 1; i <= 4; i++)); do

for ((j = 1; j <= i; j++)); do

echo -n "\*"

done

echo

done

**How to Run:**

1. Save the script as pattern.sh.
2. Run:

bash

Copy code

chmod +x pattern.sh

./pattern.sh

**2. Greet a Person by Full Name:**

**Script**:

bash

Copy code

#!/bin/bash

read -p "Enter First Name: " fname

read -p "Enter Middle Name: " mname

read -p "Enter Last Name: " lname

echo "Hello, $fname $mname $lname! Welcome!"

**How to Run:**

1. Save the script as greet.sh.
2. Run:

bash

Copy code

chmod +x greet.sh

./greet.sh

**3. Display Files and File Sizes:**

**Script**:

bash

Copy code

#!/bin/bash

files=$(ls -p | grep -v /)

max\_file=$(ls -S | grep -v / | head -n 1)

min\_file=$(ls -S | grep -v / | tail -n 1)

echo "Files in Current Directory:"

echo "$files"

echo "Largest File: $max\_file"

echo "Smallest File: $min\_file"

**How to Run:**

1. Save the script as filesize.sh.
2. Run:

bash

Copy code

chmod +x filesize.sh

./filesize.sh

**4. Check if It Is a Working Day:**

**Script**:

bash

Copy code

#!/bin/bash

day=$(date +%u) # 1 is Monday, 7 is Sunday

if ((day >= 1 && day <= 5)); then

echo "It is a working day."

else

echo "It is not a working day."

fi

**How to Run:**

1. Save the script as workingday.sh.
2. Run:

bash

Copy code

chmod +x workingday.sh

./workingday.sh

**5. Check Weight for Health Club Membership:**

**Script**:

bash

Copy code

#!/bin/bash

read -p "Enter your weight (in kg): " weight

if ((weight >= 30 && weight <= 250)); then

echo "Welcome to MBT Health Club!"

else

echo "Sorry, weight not within the acceptable range."

fi

**How to Run:**

1. Save the script as healthclub.sh.
2. Run:

bash

Copy code

chmod +x healthclub.sh

./healthclub.sh

**6. Greet Based on System Time:**

**Script**:

bash

Copy code

#!/bin/bash

hour=$(date +%H)

if ((hour < 12)); then

echo "Good Morning!"

elif ((hour < 18)); then

echo "Good Afternoon!"

else

echo "Good Evening!"

fi

**How to Run:**

1. Save the script as greettime.sh.
2. Run:

bash

Copy code

chmod +x greettime.sh

./greettime.sh

**7. Modify Student Records (Roll Number):**

**Script**:

bash

Copy code

#!/bin/bash

read -p "Enter Roll Number: " rollno

if grep -q "^$rollno:" file; then

echo "Record Found."

read -p "Enter New Name: " name

read -p "Enter Marks for Hindi: " marks1

read -p "Enter Marks for Maths: " marks2

read -p "Enter Marks for Physics: " marks3

sed -i "s/^$rollno:.\*/$rollno:$name:$marks1:$marks2:$marks3/" file

echo "Record Updated."

else

echo "Roll No Not Found."

fi

**How to Run:**

1. Create a file with student records in this format: rollno:name:marks1:marks2:marks3.
2. Save the script as modifystudent.sh.
3. Run:

bash

Copy code

chmod +x modifystudent.sh

./modifystudent.sh

**8. Accept Roll Number via Command Line:**

**Script**:

bash

Copy code

#!/bin/bash

rollno=$1

if [[ -z $rollno ]]; then

echo "Usage: $0 <Roll Number>"

exit 1

fi

if grep -q "^$rollno:" file; then

echo "Record Found."

read -p "Enter New Name: " name

read -p "Enter Marks for Hindi: " marks1

read -p "Enter Marks for Maths: " marks2

read -p "Enter Marks for Physics: " marks3

sed -i "s/^$rollno:.\*/$rollno:$name:$marks1:$marks2:$marks3/" file

echo "Record Updated."

else

echo "Roll No Not Found."

fi

**How to Run:**

1. Save as modifystudentcli.sh.
2. Run:

bash

Copy code

chmod +x modifystudentcli.sh

./modifystudentcli.sh <RollNo>

**9. Delete Record by Roll Number:**

**Script**:

bash

Copy code

#!/bin/bash

read -p "Enter Roll Number to Delete: " rollno

if grep -q "^$rollno:" file; then

grep "^$rollno:" file

read -p "Are you sure you want to delete this record? (y/n): " confirm

if [[ $confirm == "y" ]]; then

sed -i "/^$rollno:/d" file

echo "Record Deleted."

else

echo "Deletion Aborted."

fi

else

echo "Roll No Not Found."

fi

**How to Run:**

1. Save the script as deleterecord.sh.
2. Run:

bash

Copy code

chmod +x deleterecord.sh

./deleterecord.sh

**10. File Type Check:**

**Script**:

bash

Copy code

#!/bin/bash

if [[ $# -ne 1 ]]; then

echo "Usage: $0 <filename>"

exit 1

fi

if [[ -f $1 ]]; then

echo "$1 is a regular file."

elif [[ -d $1 ]]; then

echo "$1 is a directory."

else

echo "$1 is of another type."

fi

**How to Run:**

1. Save the script as filetype.sh.
2. Run:

bash

Copy code

chmod +x filetype.sh

./filetype.sh <filename>

**11. Student Records Validation:**

**Script**:

bash

Copy code

#!/bin/bash

read -p "Enter Roll Number: " rollno

read -p "Enter Name: " name

read -p "Enter Marks for Hindi: " marks1

read -p "Enter Marks for Maths: " marks2

read -p "Enter Marks for Physics: " marks3

if grep -q "^$rollno:" student; then

echo "$rollno already exists" >> log1

elif ((marks1 < 1 || marks1 > 99 || marks2 < 1 || marks2 > 99 || marks3 < 1 || marks3 > 99)); then

echo "$rollno:$name:$marks1:$marks2:$marks3 - Marks out of range" >> log1

else

total=$((marks1 + marks2 + marks3))

percentage=$((total / 3))

grade="F"

if ((percentage >= 90)); then grade="A"

elif ((percentage >= 75)); then grade="B"

elif ((percentage >= 50)); then grade="C"

fi

echo "Total: $total, Percentage: $percentage%, Grade: $grade"

fi

**How to Run:**

1. Save as validate.sh.
2. Create student file with records.
3. Run:

bash

Copy code

chmod +x validate.sh

./validate.sh