1. Write a shell script which will generate the O/P as follows

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* [admin@sushil ~]$ nano star\_pattern.sh

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

do

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

do

echo -n "\*"

done

echo

done

[admin@sushil ~]$ ./star\_pattern.sh

bash: ./star\_pattern.sh: Permission denied

[admin@sushil ~]$ chmod +x star\_pattern.sh

[admin@sushil ~]$ ./star\_pattern.sh

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[admin@sushil ~]$

1. Accept the first name, middle name, and last name of a person in variables fname, mname and lname respectively. Greet the person (take his full name) using appropriate message.

* [admin@sushil ~]$ nano greet.sh

read -p "Enter your first name please:" fname

read -p "Enter your middle name please:" mname

read -p "Enter your last name please:" lname

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

[admin@sushil ~]$ chmod +x greet.sh

[admin@sushil ~]$ ./greet.sh

Enter your first name please:Sushil

Enter your middle name please:Suresh

Enter your last name please:Mhetre

Hello,Sushil Suresh Mhetre!! Welcome to world!!!

1. Display the name of files in the current directory along with the names of files with maximum & minimum size. The file size is considered in bytes.

* [admin@sushil programs]$ ./sizeofiles.sh

Files in the current directory (sorted by size in bytes):

4 ./sizeofiles.sh

12 ./.greet.sh.swp

File with maximum size: 12 ./.greet.sh.swp

File with minimum size: 4 ./sizeofiles.sh

* [admin@sushil programs]$ nano sizeofiles.sh

temp\_file=$(mktemp)

find . -maxdepth 1 -type f ! -name "dev" ! -name "null" -exec ls -s {} + | so>

if [ -s "$temp\_file" ]; then

min=$(head -1 "$temp\_file")

max=$(tail -1 "$temp\_file")

echo "Files in the current directory (sorted by size in bytes):"

cat "$temp\_file"

echo

echo "File with maximum size: $max"

echo "File with minimum size: $min"

else

echo "No files found in the current directory."

fi

rm -f "$temp\_file"

1. Write a script which when executed checks out whether it is a working day or not?

(Note: Working day Mon-Fri)

* admin@sushil programs]$ nano weather.sh
* [admin@sushil programs]$ ./weather.sh
* Enter a day of the week which you want to check: mon
* mon is a working day.
* admin@sushil programs]$ nano weather.sh
* #!/bin/bash
* # user input for the day
* read -p "Enter a day of the week which you want to check: " day
* # Convert the input to lowercase for case-insensitive cOmparison
* day=$(echo "$day" | tr '[:upper:]' '[:lower:]')
* if echo "$day" | grep -iqE "^(mon|tue|wed|thu|fri)$"; then
* echo "$day is a working day."
* else
* echo "$day is not a working day."
* fi

1. Write a script that accepts a member into HP health club, if the weight of the person is withing the range of 30-250 Kgs.

* [admin@sushil ~]$ nano hp.sh

#!/bin/bash

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

if [ "$weight" -lt 30 ] || [ "$weight" -gt 250 ]; then

echo "Sorry, your weight is outside the acceptable range (30-250 kg). You >

else

echo "Welcome to HP Health Club! You have been successfully accepted."

fi

[admin@sushil ~]$ chmod +x hp.sh

[admin@sushil ~]$ ./hp.sh

Enter your weight in kg: 59

Welcome to HP Health Club! You have been successfully accepted.

1. Write a shell script that greets the user with an appropriate message depending on the system time.

* [admin@sushil programs]$ nano timegreet.sh
* [admin@sushil programs]$ ./timegreet.sh
* Enter the hour (0-23 only): 22
* Good Night!
* [admin@sushil programs]$ nano timegreet.sh
* #!/bin/bash
* read -p "Enter the hour (0-23 only): " hour
* if [ "$hour" -lt 0 ] || [ "$hour" -ge 24 ]; then
* echo "Invalid input! Please enter a number between 0 and 23."
* exit 1
* fi
* # Greet based on the time of day
* if [ "$hour" -ge 5 ] && [ "$hour" -lt 12 ]; then
* echo "Good Morning!"
* elif [ "$hour" -ge 12 ] && [ "$hour" -lt 17 ]; then
* echo "Good Afternoon!"
* elif [ "$hour" -ge 17 ] && [ "$hour" -lt 21 ]; then
* echo "Good Evening!"
* else
* echo "Good Night!"
* fi

1. A data file file has some student records including rollno, names and subject marks. The fields are separated by a “:”. Write a shell script that accepts roll number frOm the user, searches it in the file and if the roll number is present - allows the user to modify name and marks in 3 subjects.   
   If the roll number is not present, display a message “Roll No Not Found”. Allow the user to modify one record at a time.

* [admin@sushil programs]$ nano modify\_stu.sh

#!/bin/bash

file="studentrecord.txt"

read -p "Enter the roll number to search: " rollno

record=$(grep "^$rollno:" "$file")

if [ -n "$record" ]; then

echo "Record found: $record"

IFS=":" read -r roll name marks1 marks2 marks3 <<< "$record"

# Allow user to modify name and marks for modification

read -p "Enter new name (current: $name): " new\_name

read -p "Enter new mark for subject 1 (current: $marks1): " new\_marks1

read -p "Enter new mark for subject 2 (current: $marks2): " new\_marks2

read -p "Enter new mark for subject 3 (current: $marks3): " new\_marks3

sed -i "s/^$rollno:$name:$marks1:$marks2:$marks3$/$rollno:$new\_name:$new\_ma>

echo "Record updated successfully!"

else

[admin@sushil programs]$ ./modify\_stu.sh

Enter the roll number to search: 102

Record found: 102:Om:90:95:97

Enter new name (current: Om): rameshwar

Enter new mark for subject 1 (current: 90): 95

Enter new mark for subject 2 (current: 95): 92

Enter new mark for subject 3 (current: 97): 95

Record updated successfully!

[admin@sushil programs]$ cat studentrecord.txt

101:Ramesh:80:90:70

102:rameshwar:95:92:95

103:Sanjay:60:70:80

1. Modify program 7 to accept the RollNo from the command line.

* [admin@sushil ~]$ nano modify\_stu.sh
* # To Accept roll number
* read -p "Enter the roll number to search: " rollno
* [admin@sushil ~]$ ./modify\_stu.sh
* Enter the roll number to search: 102
* Record found: 102:rameshwar:95:92:95

1. Modify the program 7 to accept the RollNo and display the record and ask for delete confirmation. Once confirmed delete the record and update the data file.

* [admin@sushil programs]$ nano del\_stu.sh

#!/bin/bash

file="studentrecord.txt"

if [ -z "$1" ]; then

read -p "Enter the roll number to search: " rollno

else

# Use the command line argument for roll number

rollno=$1

fi

record=$(grep "^$rollno:" "$file")

if [ -n "$record" ]; then

echo "Record found: $record"

read -p "want to delete record type y : " confirm

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

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

echo "Record deleted successfully!"

else

echo "Deletion aborted."

fi

else

echo "Roll No Not Found"

fi

* [admin@sushil programs]$ chmod +x del\_stu.sh
* [admin@sushil programs]$ ./del\_stu.sh
* Enter the roll number to search: 103
* Record found: 103:Sanjay:60:70:80
* want to delete record type y : y
* Record deleted successfully!

1. Write a script that takes a command line argument and reports on its file type (regular file, directory file, etc.). For more than one argument generate error message.

* [admin@sushil ~]$ nano filereport.sh

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

echo "Error: Please provide exactly one argument."

echo "Usage: $0 <file\_path>"

exit 1

fi

file\_path=$1

if [ -e "$file\_path" ]; then

file\_type=$(file "$file\_path")

echo "$file\_type"

else

echo "Error: $file\_path does not exist."

exit 1

fi

[admin@sushil ~]$ chmod +x filereport.sh

[admin@sushil ~]$ ./filereport.sh networrk.txt

networrk.txt: ASCII text, with very long lines

[admin@sushil ~]$ ./filereport.sh errorfile.txt

Error: errorfile.txt does not exist.

[admin@sushil ~]$ ./filereport.sh styles

styles: directory

1. Add some student records in the “student” file manually. The fields to be considered are “RollNo”, “Name”, “Marks\_Hindi”, “Marks\_Maths”, “Marks\_Physics”.  
    Write a script which does the following

* [admin@sushil ~]$ touch student
* [admin@sushil ~]$ vim student
* [admin@sushil ~]$ cat student
* 101:Rajaram:70:85:92
* 102:Sanjay:70:75:80
* 103:Sushil:90:68:85
* [admin@sushil ~]$ nano studentrec.sh
* [admin@sushil ~]$ chmod +x studentrec.sh
* [admin@sushil ~]$ ./studentrec.sh
* Enter Roll No: 104
* Enter Name: Om
* Enter Marks in Hindi: 78
* Enter Marks in Maths: 90
* Enter Marks in Physics: 89
* Total Marks: 257
* Percentage: 85%
  1. If the roll number already exists, then store the record and the following message   
     “roll number exists” in a log file “log1”.
* [admin@sushil ~]$ ./studentrec.sh
* Enter Roll No: 102
* Enter Name: San
* Roll number 102 exists.
  1. If the marks in the subjects is not in the range of 1 – 99 then store such a record followed by a message “marks out of range” in “log1”
* [admin@sushil ~]$ ./studentrec.sh
* Enter Roll No: 106
* Enter Name: Jaya
* Enter Marks in Hindi: 90
* Enter Marks in Maths: 78
* Enter Marks in Physics: 101
* Marks out of range.
  1. If the data is valid, the calculate total, percentage, grade and display on the terminal
* [admin@sushil ~]$ ./studentrec.sh
* Enter Roll No: 105
* Enter Name: Sai
* Enter Marks in Hindi: 90
* Enter Marks in Maths: 34
* Enter Marks in Physics: 67
* Total Marks: 191
* Percentage: 63%