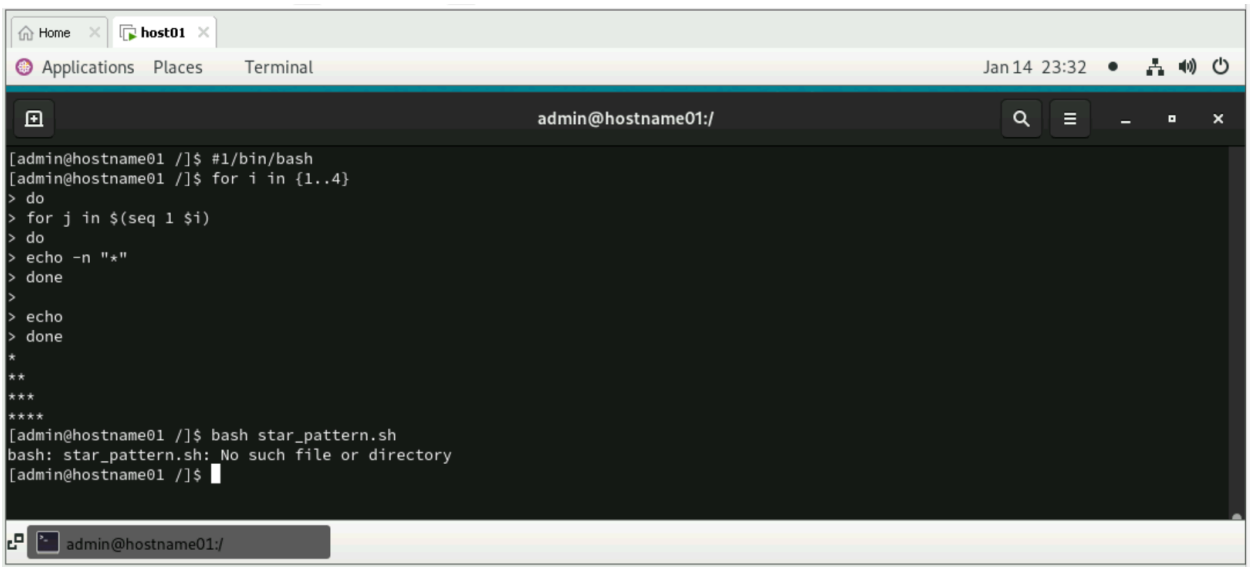
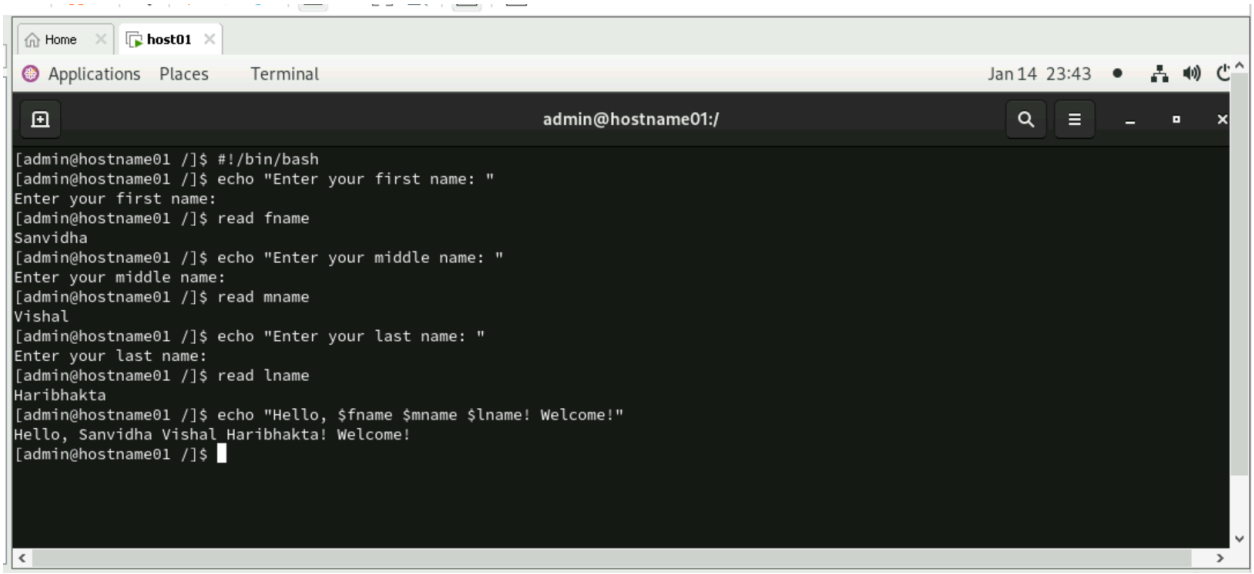
1 Write a shell script which will generate the O/P as follows

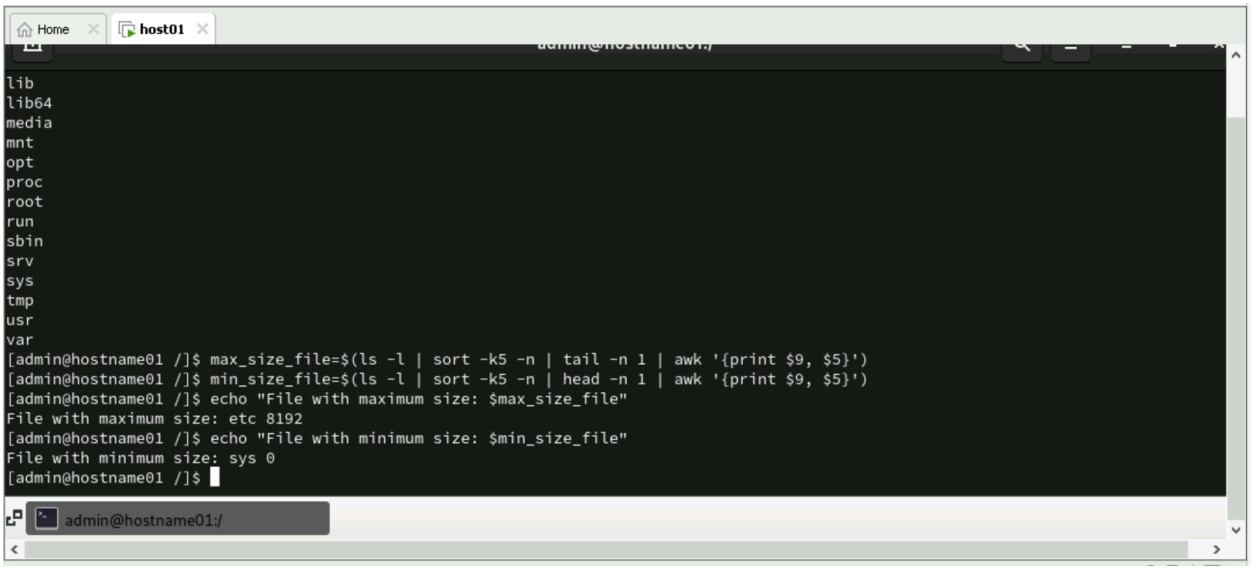
```
*
**
***
****
```

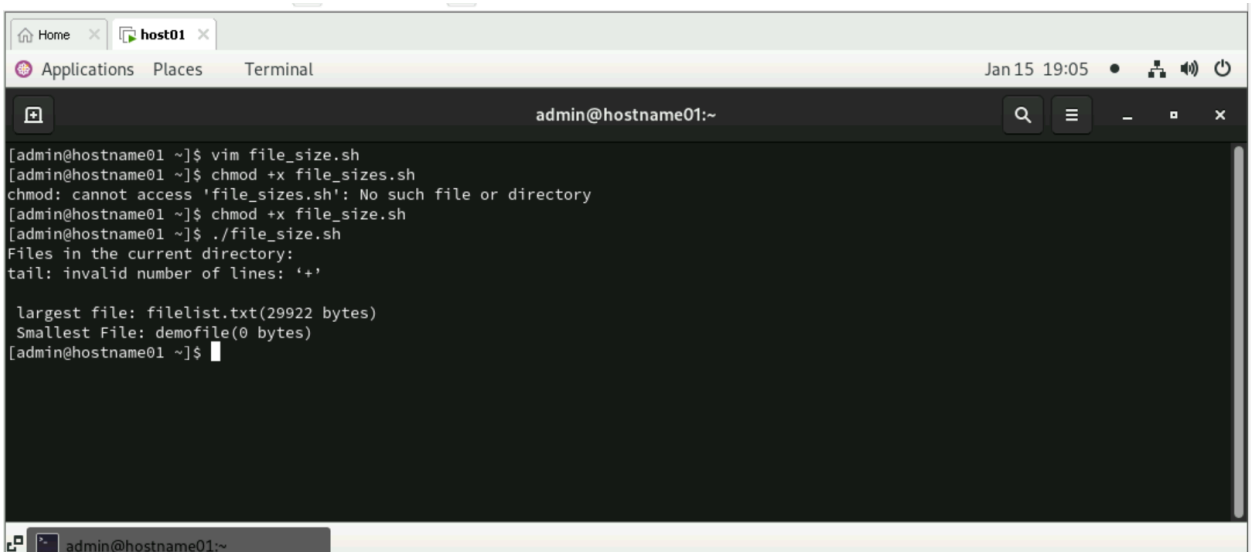


2 Accept the first name, middle name, and last name of a person in variables fname, mname and lname respectively. Greet the person (take his full name) using appropriate message.

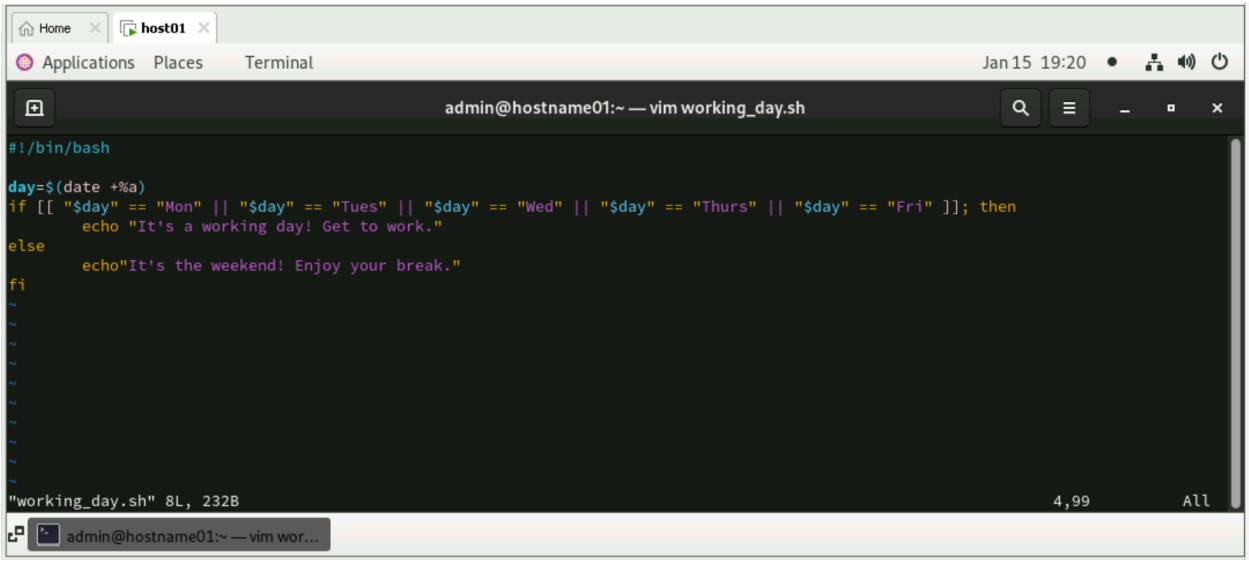


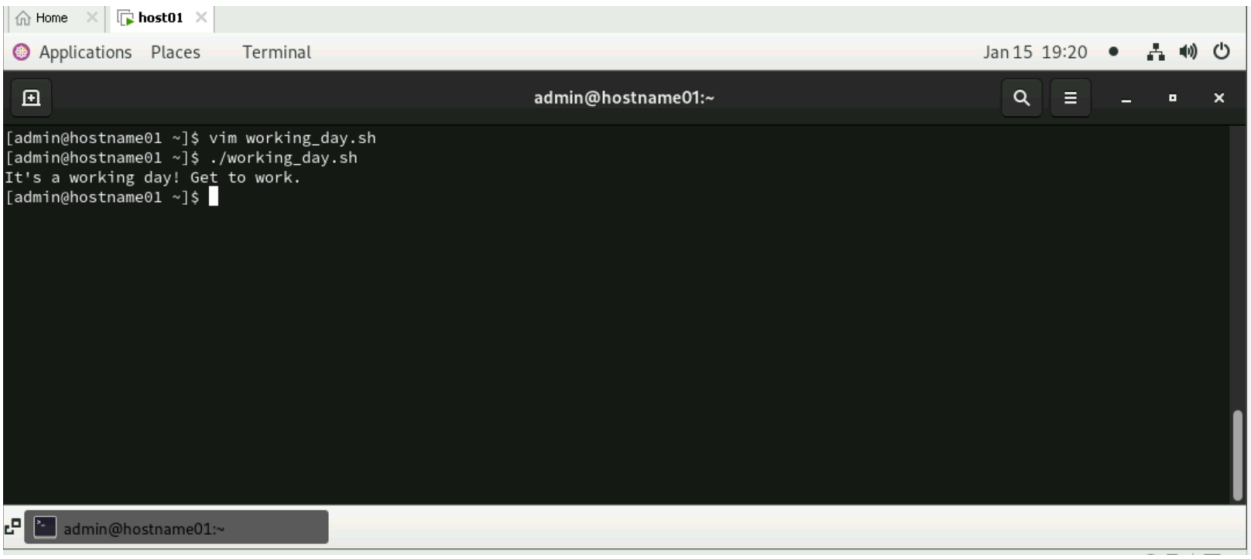
3 Display the name of files in the current directory along with the names of files with maximum & minimum size. The file size is considered in bytes.





4 Write a script which when executed checks out whether it is a working day or not?
(Note: Working day Mon-Fri)





5 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.

```
#!/bin/bash

# Accept weight from the user
echo -n "Enter your weight (in Kgs): "
read weight

# Validate if input is a number
if [[ ! $weight =~ ^[0-9]+$ ]]; then
  echo "Invalid input. Please enter a numeric value for weight."
```

```
  exit 1
fi

# Check if the weight is within the valid range
if [[ $weight -ge 30 && $weight -le 250 ]]; then
  echo "You are eligible to join the HP Health Club."
else
  echo " Your weight is not within the eligible range (30-250 Kgs)."
fi
```

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

```
#!/bin/bash


hour=$(date +%H)


if [[ $hour -ge 0 && $hour -lt 12 ]]; then
  echo "Good Morning!"
elif [[ $hour -ge 12 && $hour -lt 17 ]]; then
  echo "Good Afternoon!"
else
  echo "Good Evening!"
fi
```

7 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.

```
#!/bin/bash
```

```
hour=$(date +%H)

if [[ $hour -ge 0 && $hour -lt 12 ]]; then
  echo "Good Morning!"
elif [[ $hour -ge 12 && $hour -lt 17 ]]; then
  echo "Good Afternoon!"
else
  echo "Good Evening!"
fi
```

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

```
#!/bin/bash

rollno=$1

grep -q "$rollno" file
if [[ $? -eq 0 ]]; then
  echo "Roll number found. You can now modify the record."
  echo "Enter name: "
  read name
  echo "Enter marks for subject 1: "
  read marks1
  echo "Enter marks for subject 2: "
  read marks2
  echo "Enter marks for subject 3: "
  read marks3

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

```
  echo "Record updated successfully."
else
  echo "Roll No Not Found"
fi
```

9 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.

```
#!/bin/bash

echo "Enter roll number to delete: "
read rollno



grep -q "$rollno" file
if [[ $? -eq 0 ]]; then
  echo "Roll number found. Do you want to delete the record? (yes/no)"
  read confirmation
  if [[ "$confirmation" == "yes" ]]; then

    sed -i "/^$rollno:/d" file
    echo "Record deleted successfully."
  else
    echo "Record not deleted."
  fi
else
  echo "Roll No Not Found"
fi
```

10 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.

```
#!/bin/bash
```

```
if [ $# -eq 1 ]; then
  file=$1
  if [ -f "$file" ]; then
    echo "$file is a regular file."
  elif [ -d "$file" ]; then
    echo "$file is a directory."
  else
    echo "$file is of an unknown type."
  fi
else
  echo "Error: Please provide exactly one file name."
fi
```

11 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

a If the roll number already exists, then store the record and the following message “roll number exists” in a log file “log1”.

b 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”

c If the data is valid, the calculate total, percentage, grade and display on the terminal

```
#!/bin/bash

# Accept student data
echo "Enter RollNo: "
read rollno
echo "Enter Name: "
read name
echo "Enter Marks for Hindi: "
read marks_hindi
echo "Enter Marks for Maths: "
read marks_maths
echo "Enter Marks for Physics: "
read marks_physics

# Validate the data
if [[ $(grep -q "$rollno" student) ]]; then
  echo "Roll number exists" >> log1
```

```
else
  if [[ $marks_hindi -lt 1 || $marks_hindi -gt 99 || $marks_maths -lt 1 || $marks_maths -gt 99 ||
$marks_physics -lt 1 || $marks_physics -gt 99 ]]; then
    echo "Marks out of range" >> log1
  else
    total=$((marks_hindi + marks_maths + marks_physics))
    percentage=$((total / 3))
    grade=""

    if [[ $percentage -ge 90 ]]; then
      grade="A"
    elif [[ $percentage -ge 75 ]]; then
      grade="B"
    elif [[ $percentage -ge 60 ]]; then
      grade="C"
    else
      grade="D"
    fi

    echo
"$rollno:$name:$marks_hindi:$marks_maths:$marks_physics:$total:$percentage:$grade" >>
student
    echo "Student record added successfully."
  fi
fi
```