5. Download the transcripts of text chat from the google drive folder for this course into a folder. Create a script that can calculate your attendance as a percentage by looking for your roll number in each of the files.
   The solution includes the script, total number of transcript files considered, lecture numbers missed and attendance percentage. [2 Marks]
   Hint: Use the features of grep and wc for the task.
   Application: When you run a large FEM program, you receive a log output in which certain warnings will be listed about change of algorithm or convergence failure etc., Looking for their occurrence and analysis is a part of engineering simulation work.

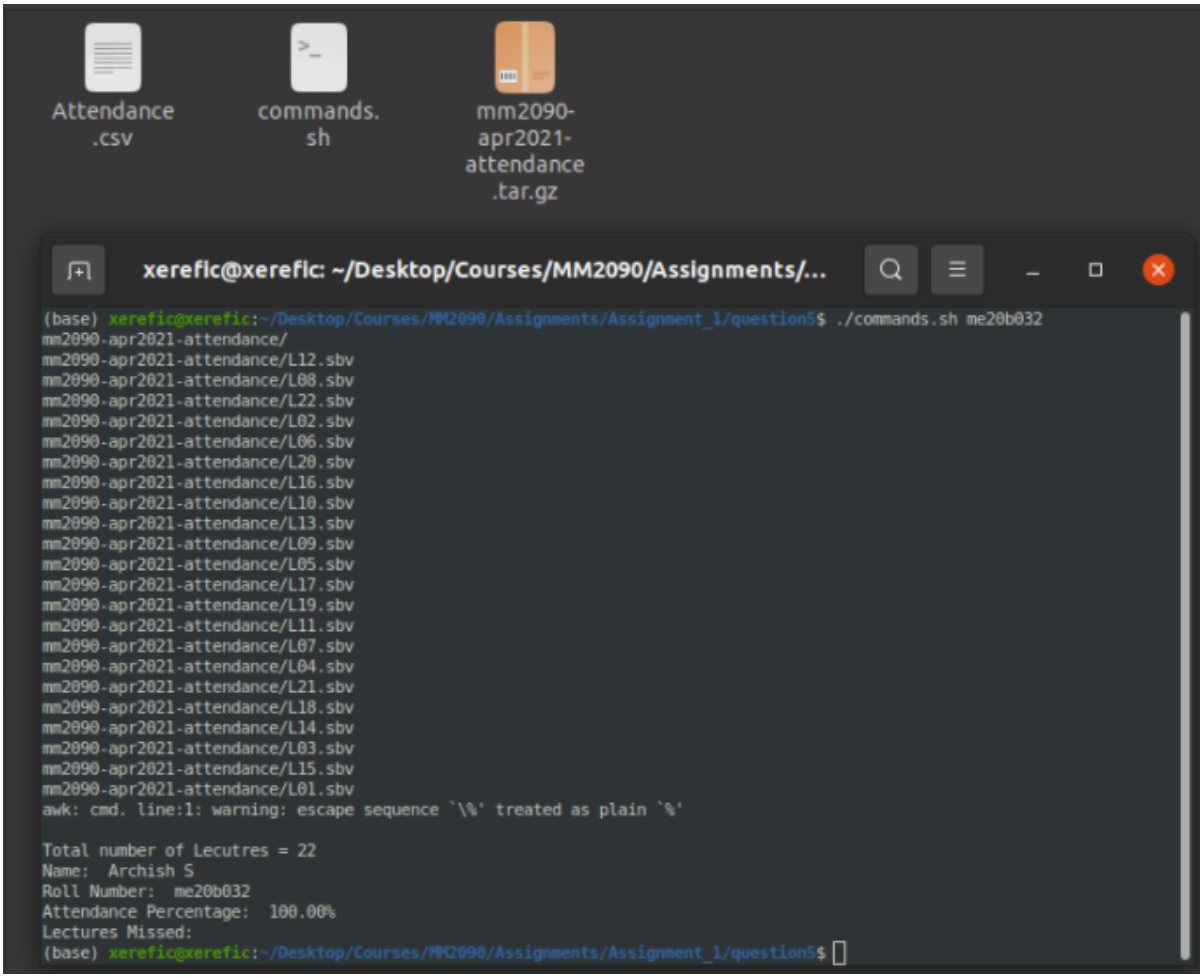
Link to the GitHub repository for this question: GitHub

This bash automatically processes the contents of the zip file and gives the attendance report.
The bash script can also take one parameter – the roll number and give the report of that person.

```
#!/bin/bash

# Unzipping the chats
tar -xvzf mm2090-apr2021-attendance.tar.gz
mv mm2090-apr2021-attendance/ transcripts/

# Grepping the name and roll number of students
mkdir registered
lectures=0;
for files in `ls transcripts/`;
do
  lectures=$(( $lectures+1 ));
  cat transcripts/$files | grep -oe '^\(.*\)..[[:digit:]][[:digit:]][[:alpha:]]...:' > registered/$(basename $files .sbv).txt
done;
rm -r transcripts/

# Pre-processing
for files in `ls registered/`;
do
        cat registered/$files | sed -e 's/\(.*\) \(.*\):/\2,\1/g'  > registered/$(basename $files .txt).csv
done;
rm registered/*.txt


mkdir cache
for files in `ls registered/`;
do
  cat registered/$files | sed -e 's/ /_/g' > cache/$(basename $files .csv).csv
done;
rm -r registered/

# Removing multiple instances for each lecture
mkdir attendance
for files in `ls cache/`;
do
  cat cache/$files | awk -F, '{name[$1]=$2;}END{for (id in name){printf("%s,%s\n", id, name[id]);}}' | sort -k1 -n > attendance/$(basename $files .csv).csv
done;
rm -r cache/

# Finding the total registerants
tail -n+1 -q attendance/*.csv | awk -F, '{name[$1]=$2;}END{for (id in name){printf("%s,%s\n", id, name[id]);}}' | sort -k1 -n > registered.csv

# Finding the percentage of attendance
tail -n+1 -q attendance/*.csv | awk -F, -v total=$lectures '{data[$1]=$0;name[$1]++;}END{for (id in name){printf("%s,%.2f\%\n", data[id], name[id]/total*100);}}' | sort -k1 -n > attendance.csv

# Finding absentees in every lecture
```

```
mkdir absent
for files in `ls attendance/`
do
  diff attendance/$files registered.csv | egrep '....b...' | sed 's/> \(.*\)/\1/g' | awk -v lecture=$(basename $files .csv) '{printf("%s,%s\n", $0, lecture)}' > absent/$(basename $files .csv).csv;
done;
rm registered.csv
rm -r attendance/

# Processing the absentee list
tail -n+1 -q absent/*.csv | awk -F, '{name[$1]=$2;absent[$1]=absent[$1]$3;}END{for (id in name){printf("%s,%s,%s\n", id, name[id], absent[id]);}}' | sort -k1 -n > absent.csv
rm -r absent/

# Combining the data
awk -F, 'NR==FNR {absent[$1]=$3; next}{printf("%s,%s\n", $0, absent[$1]);}' absent.csv attendance.csv > cache.csv
rm absent.csv
rm attendance.csv

cat cache.csv | sed 's/_/ /g' | sed 's/\L/ L/g'  > final.csv
rm cache.csv

# Adding header
awk -F, 'BEGIN{printf("Roll,Name,Percentage,Missed Lectures\n");}{print $0;}' < final.csv > Attendance.csv
rm final.csv

echo

echo "Total number of Lecutres = $lectures"

if [ -z "$1" ]; then
  echo
else
  cat Attendance.csv | grep $1 | gawk -F, '{print "Name: ", $2; print "Roll Number: ", $1; print "Attendance Percentage: ", $3; print "Lectures Missed: ", $4;}'
fi

```

TERMINAL:



OUTPUT:

```
Total number of Lectures = 22
Name: Archish S
Roll Number: me20b032
Attendance Percentage: 100%
Lectures Missed:
```

OUTPUT:

Roll	Name	Percentage	Missed Lectures
me20b001	Aahan Bhargava	77.27%	L15 L16 L18 L21 L22
me20b004	Abhaumika Bijudith	22.73%	L01 L02 L05 L07 L08 L09 L10 L11 L12 L13 L14 L16 L17 L18 L19 L21 L22
me20b005	Abheshek Paramanand Kamble	86.36%	L06 L17 L19
me20b008	Abhishek Yadav	81.82%	L04 L06 L17 L22
me20b014	Aditya Kishore Dhoke	77.27%	L02 L04 L13 L17 L19
me20b017	Akhil Koshy Rajesh	81.82%	L10 L15 L19 L21
me20b020	Akshat Rakesh Garhwal	86.36%	L08 L09 L21
me20b021	Alpha P Jose	72.73%	L01 L03 L04 L10 L14 L19
me20b022	Amar Muhammed	9.09%	L01 L03 L04 L05 L06 L07 L08 L09 L10 L11 L12 L13 L14 L15 L16 L17 L18 L19 L21 L22
me20b024	Ankit Kumar	86.36%	L02 L03 L04
me20b027	Anshid K	31.82%	L06 L07 L08 L09 L11 L13 L14 L15 L16 L17 L18 L19 L20 L21 L22
me20b028	Anushka Asit Vadhavkar	100.00%	
me20b029	Anushka S	86.36%	L01 L15 L22
me20b032	Archish S	100.00%	
me20b036	Arun Palaniappan	95.45%	L03
me20b050	Cecil Jacob Thomas	95.45%	L04
me20b053	Chinmayee Tushar Kolhe	86.36%	L05 L08 L13
me20b055	Chris Joy Beck	40.91%	L01 L06 L08 L10 L12 L13 L15 L16 L17 L18 L19 L20 L21
me20b088	Jay Harish Shah	100.00%	
me20b112	Monisha C	90.91%	L03 L16
me20b132	Prabhat Bedida	86.36%	L04 L16 L22
me20b150	Rithwin K Ashraf	54.55%	L03 L05 L07 L10 L14 L15 L16 L18 L19 L21
me20b162	Shrid Suresh	27.27%	L04 L05 L06 L07 L08 L09 L10 L11 L12 L13 L16 L18 L19 L20 L21 L22
me20b163	Shriya Shukla	100.00%	
me20b166	Siddhagavali Shital Bhiku	90.91%	L05 L17
me20b178	Sukeerth Ramkumar	100.00%	
me20b183	Swapnil Paresh Mehta	100.00%	
mm20b005	Albin George	50.00%	L04 L06 L09 L11 L12 L13 L15 L17 L18 L21 L22
mm20b009	Bankar Niranjan Janardan	4.55%	L02 L03 L04 L05 L06 L07 L08 L09 L10 L11 L12 L13 L14 L15 L16 L17 L18 L19 L20 L21 L22
mm20b011	Bhagat Singh S	27.27%	L04 L05 L08 L09 L10 L11 L12 L13 L14 L15 L16 L17 L19 L20 L21 L22
mm20b017	Divya Jyothi D	86.36%	L01 L08 L16
mm20b019	Gatkal Siddhesh Sarjerao	95.45%	L07
mm20b020	Gokul C	81.82%	L04 L16 L18 L22
mm20b042	Nayanatara Deepak	81.82%	L01 L04 L13 L17
mm20b043	Nedunchezhiyan K	59.09%	L01 L02 L05 L07 L09 L10 L15 L19 L20
mm20b049	Prithviraj Pratap Bhosle	77.27%	L06 L09 L10 L13 L22
mm20b057	Shreya Rajesh	81.82%	L01 L02 L04 L17
mm20b059	Sumanth Manjunath Hegde	77.27%	L06 L08 L10 L16 L21