1. Download and use RollList.csv for this question. Assume that the hostel fee of freshers is incremented by 10 percent of the previous year's fees each year. This fee you pay as a fresher continues to be paid every semester after that without increment. E.g., fees for students who joined in 2018 will be lower than those who joined in 2019, but the 2019 batch will pay the same fees every semester and so on. The students who joined in the year 2017 had to pay INR 20,000 as hostel fees.
   The solution includes a script to calculate, and the output of total fees received this semester by the hostel administration from the students on the Roll List. [2 Marks]
   Hint: You can use a shell script or awk script to achieve this.
   Application: Minor numerical operations on a regular dataset in a CSV file are typical in data analysis.

Link to the GitHub repository for this question: GitHub

This awk script takes in the RollList.csv and preprocesses each line, keeping count of number of students from each year.

```
#!/usr/bin/gawk -f
BEGIN{
  FS = ",";
  sum = 0;
};

{
  # Saving the roll number in the variable roll
  roll = $1;

  # Stripping the 3rd and 4th characters of the roll number
  year = int(substr(roll, 3, 2));

  # Incrementing the number of students belonging to that year
  num[year]++;

};

END{
  for (year in num){

            # Calculating the rate first then the sum - doing in one step gave scientific representation
            rate = (1.1)**(year-17)*num[year];
            sum+= 20000*rate;
  };
            print sum;
};
```

This bash script calls the fess.awk wrapper to find the fees paid by the students listed in RollList.csv

```
#!/bin/bash

./fees.awk < RollList.csv

```

Assignment 1 – Question 1

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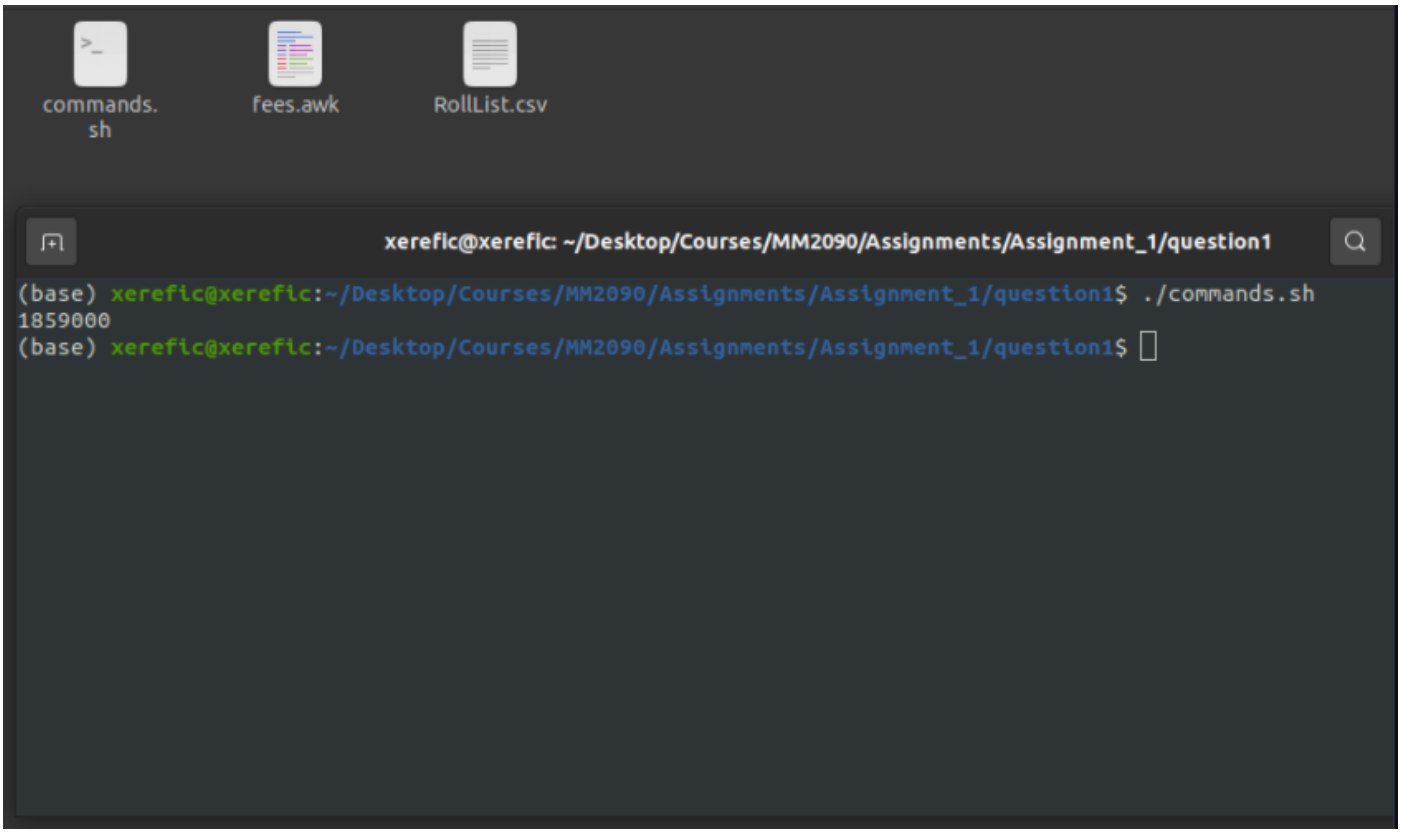
Batch 7

TERMINAL:



OUTPUT:

```
1859000
```