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# Background

Since we have had our studies and curriculum run at quite an impressive pace for almost 3 months, we have finished our coursework successfully. Some subjects took a short time while some of them took a little longer. Some classes were so good that even the back benchers would join them. Some were so boring that everyone wanted nothing less than to bunk. But, were we just guessing this as the reality or was there really this perception among our classmates? How can we share our experiences with our juniors? So, It was a good time to reflect upon the teachers and how helpful they have been for us throughout the months. With this impressive thought in our mind, we decided, what would be a better idea than to create a rating software where all of the students can tell us their opinions on the teachers. And yes, that's exactly what we did in this project.

## About our Project

This project was totally made in C language using only one header to showcase the extent and usefulness of simple programming concepts we were actually taught. Nothing beyond the scope of our curriculum was used or implemented in this project. `<stdio.h>`, a header responsible for standard input and output (file handling) is the only header we have used. Our project uses many, or all the concepts we were taught in our lab and theory classes like variables, printing to user, loops, arrays, pointers, file handling by reading, appending and writing, recursive functions, user defined functions, structures, function call on another function, and many more. This project is just a simple example to display problem solving skill is what matters more than language.

This project of ours consists of 2 parts. One program will help users to add ratings to the teachers. Another will help users view the rating(s) as they need. Though they are separate programs on their own, their many functions and ideas.

The `AddEntry.c` program is all about adding new entries of ratings. We have scoped the entry to our CD section only to challenge ourselves in adding restrictions in our software. The teachers are also limited to the teachers of our section. However, this can easily be changed by editing simple values within the program. This program manages to provide good error handling. It displays proper error messages to the user if the intended use of the program is not correctly followed. This program needs 2 databases which we will later see also being used in our next program. The databases are `Student.txt` and `rating_data.txt`.

The `ViewRatings.c` program on the other side helps you view the ratings in several ways users may find useful. Users can view the ratings made by a particular student, view all the ratings made by every student at once, view the ratings received by a particular teacher or view the ratings received by all the teachers at once. This program too handles the errors users might make quite well.

The database rating\_data.txt consists of 2 lines of data where the first line stores the total number of students each teacher has received rating from. The second line of this database stores the sum of rating teachers have received.

The Student.txt database consists of several rows of data where each row holds the rating a student has given to all the teachers. The first two digits show the roll of the student.

Working of both of these software are simple and anyone with basic concepts of programming and C language can easily understand this.

## Outcome

Several screenshots of outputs we could obtain from the code are displayed below.

```
o L$ ./input
Hey there, Nice to have you fellow pulchowkian.
I would be grateful if you tell us your opinion about our teachers. Our faculty as of now stands as :
Physics
1.) KPsir
2.) GNLsir

Maths
3.) GGsir
4.) PAmaam
5.) Hgsir
6.) SDBmaam

Mechanics
7.) AKmaam
8.) GSBsir

Drawing
9.) PGsir

Computer
10.) GGsir

Electrical
11.) SKsir

Do you want to add your rating for our teachers:
1.) Yes
2.) No
```



Figure 1 After Running AddEntry.c

Do you want to add your rating for our teachers:

- 1.) Yes
- 2.) No

1

Currently These students have already rated.

84      96      75      79      81      92      64      85      67      66      88      50      59      80

Kindly, Enter your roll no please (49-96): 12

You must belong to CD section with roll no between 49 and 96 to rate.

Kindly, Enter your roll no please (49-96): 84

Sorry, but I think you have already entered your rating. Please let others rate now.

Kindly, Enter your roll no please (49-96): 91

- 1.)KPsir
- 2.)GNLsir
- 3.)GGsir
- 4.)PAmaam
- 5.)HGsir
- 6.)SDmaam
- 7.)AKmaam
- 8.)GSBsir
- 9.)PGsir
- 10.)GGsir
- 11.)SKsir

Enter your rating(1-9) for teacher no 1 : 0

Enter your rating(1-9) for teacher no 1 : 7

Enter your rating(1-9) for teacher no 2 : 1

Enter your rating(1-9) for teacher no 3 : 2

Enter your rating(1-9) for teacher no 4 : 4

Enter your rating(1-9) for teacher no 5 : 5

Enter your rating(1-9) for teacher no 6 : 5

Enter your rating(1-9) for teacher no 7 : 10

Enter your rating(1-9) for teacher no 7 : 18

Enter your rating(1-9) for teacher no 7 : 9

Enter your rating(1-9) for teacher no 8 : 9

Enter your rating(1-9) for teacher no 9 : 9

Enter your rating(1-9) for teacher no 10 : 9

Enter your rating(1-9) for teacher no 11 : 9

Do you want to add your rating for our teachers:

- 1.) Yes
- 2.) No

2

Thank you . Have a good day sir.

 (neddih@2400-1A00-B040) - [ /media/neddih/Local Disk/C Projects/Shashank ]

Figure 2 All the error handling and the quit message

```
) L$ ./output
Our section CD was blessed with exceptional teachers.
Physics
1.) KPsir
2.) GNLsir

Maths
3.) GGsir
4.) PAmaam
5.) Hgsir
6.) SDmaam

Mechanics
7.) AKmaam
8.) GSBsir

Drawing
9.) PGsir

Computer
10.) GGsir

Electrical
11.) SKsir

But what are the thoughts of the students on these teachers.
Do you want to view the ratings?
1.) yes (of a particular student)
2.) yes (of a particular teacher)
3.) no
```

Figure 3 Initial Output from ViewRatings.c

But what are the thoughts of the students on these teachers.

Do you want to view the ratings?

1.) yes (of a particular student)

2.) yes (of a particular teacher)

3.) no

1

Enter the roll no of student of student whose rating you want to view.

Currently, these students have rated.

84 96 75 79 81 92 64 85 67 66 88 50 59 80 91

Enter 717 for printing ratings of all students.

77

Our record does not find any student with the matching record. Please enter another roll no among :

84 96 75 79 81 92 64 85 67 66 88 50 59 80 91

Enter 717 for printing ratings of all students.

84

The rating for the teachers by 84 roll no is :

Rating of teacher 1 is : 9

Rating of teacher 2 is : 9

Rating of teacher 3 is : 9

Rating of teacher 4 is : 9

Rating of teacher 5 is : 9

Rating of teacher 6 is : 9

Rating of teacher 7 is : 9

Rating of teacher 8 is : 9

Rating of teacher 9 is : 9

Rating of teacher 10 is : 9

Rating of teacher 11 is : 9

Do you want to view the ratings?

1.) yes (of a particular student)

2.) yes (of a particular teacher)

3.) no

1

Figure 4 A student's rating and error handling within it

Do you want to view the ratings?

1.) yes (of a particular student)

2.) yes (of a particular teacher)

3.) no

1

Enter the roll no of student of student whose rating you want to view.

Currently, these students have rated.

84 96 75 79 81 92 64 85 67 66 88 50 59 80 91

Enter 717 for printing ratings of all students.

717

Roll	KPsir	GNLsir	GGsir	PAmaam	Hgsir	SDmaam	AKmaam	GSBsir	PGsir	GGsir	SKsir
84	9	9	9	9	9	9	9	9	9	9	9
96	6	8	8	8	8	7	8	8	8	7	7
75	2	9	4	6	8	6	9	7	7	4	6
79	4	8	6	7	7	5	7	5	6	7	7
81	7	7	6	8	7	6	9	7	8	8	8
92	2	5	2	3	2	2	5	2	2	1	6
64	1	4	6	7	7	2	7	3	9	7	5
85	8	7	8	9	8	7	8	9	7	8	9
67	9	9	9	9	9	9	7	6	5	4	3
66	9	9	9	9	9	9	9	9	9	9	9
88	9	9	9	9	9	9	9	9	9	9	9
50	3	4	7	4	3	4	6	8	3	2	1
59	1	7	8	8	9	7	9	6	9	9	9
80	7	8	7	9	9	8	9	8	9	8	9
91	7	1	2	4	5	5	9	9	9	9	9
91	7	1	2	4	5	5	9	9	9	9	9

Do you want to view the ratings?

1.) yes (of a particular student)

2.) yes (of a particular teacher)

3.) no

1

Figure 5 Printing All Students Ratings using 717

Do you want to view the ratings?  
 1.) yes (of a particular student)  
 2.) yes (of a particular teacher)  
 3.) no  
 2

Enter the index no of the teacher whose rating you want to view.  
 1      2      3      4      5      6      7      8      9      10      11  
 KPsir   GNLsir   GGsir   PAmaam   Hgsir   SDmaam   AKmaam   GSBsir   PGsir   GGsir   SKsir  
 Enter 717 for printing ratings of all teachers.  
 7

The rating to the teacher are :

9  
 8  
 9  
 7  
 9  
 5  
 7  
 8  
 7  
 9  
 9  
 6  
 9  
 9  
 9  
 9  
 With an average of : 8.00.

Do you want to view the ratings?  
 1.) yes (of a particular student)  
 2.) yes (of a particular teacher)  
 3.) no  
 1

Figure 6 Printing AKmaam's rating from all students

Do you want to view the ratings?  
 1.) yes (of a particular student)  
 2.) yes (of a particular teacher)  
 3.) no  
 2

Enter the index no of the teacher whose rating you want to view.  
 1      2      3      4      5      6      7      8      9      10      11  
 KPsir   GNLsir   GGsir   PAmaam   Hgsir   SDmaam   AKmaam   GSBsir   PGsir   GGsir   SKsir  
 Enter 717 for printing ratings of all teachers.  
 717

KPsir	GNLsir	GGsir	PAmaam	Hgsir	SDmaam	AKmaam	GSBsir	PGsir	GGsir	SKsir	
9	9	9	9	9	9	9	9	9	9	9	
6	8	8	8	8	7	8	8	8	7	7	
2	9	4	6	8	6	9	7	7	4	6	
4	8	6	7	7	5	7	5	6	7	7	
7	7	6	8	7	6	9	7	8	8	8	
2	5	2	3	2	2	5	2	2	1	6	
1	4	6	7	7	2	7	3	9	7	5	
8	7	8	9	8	7	8	9	7	8	9	
9	9	9	9	9	9	7	6	5	4	3	
9	9	9	9	9	9	9	9	9	9	9	
9	9	9	9	9	9	9	9	9	9	9	
3	4	7	4	3	4	6	8	3	2	1	
1	7	8	8	9	7	9	6	9	9	9	
7	8	7	9	9	8	9	8	9	8	9	
7	1	2	4	5	5	9	9	9	9	9	
5.53	6.93	6.67	7.27	7.27	6.33	8.00	7.00	7.27	6.73	7.07	Averages.

Do you want to view the ratings?  
 1.) yes (of a particular student)  
 2.) yes (of a particular teacher)  
 3.) no  
 1

Figure 7 Printing all teachers ratings and also the average

```

Do you want to view the ratings?
1.) yes (of a particular student)
2.) yes (of a particular teacher)
3.) no
2

Enter the index no of the teacher whose rating you want to view.
1      2      3      4      5      6      7      8      9      10     11
KPsir  GNLSir GGsir  PAmaam Hgsir  SDmaam AKmaam GSBsir PGsir  GGsir  SKsir
Enter 717 for printing ratings of all teachers.
12

```

```

We only have 11 teachers in our record. Please Re-Enter the index of the teacher among :
1      2      3      4      5      6      7      8      9      10     11
KPsir  GNLSir GGsir  PAmaam Hgsir  SDmaam AKmaam GSBsir PGsir  GGsir  SKsir
OR Enter 717 to print the rating of all teachers.

```



Figure 8 Error Handling in Teacher's rating print

```

Do you want to view the ratings?
1.) yes (of a particular student)
2.) yes (of a particular teacher)
3.) no
3
Thank you so much for using our service. You can try our other services too.

```

```

$ (neddih 2400-1A00-B040) - [ /media/neddih/Local Disk/C Projects/Shashank ]

```

Figure 9 Ending the ViewRatings.c Program

## Learning

By doing this project, We could get a grasp on all the fundamental programming topics and techniques. Utilize and apply all the concepts we learned through these 2 months. It also made us realize that there is still plenty of room to improve upon such as graphical interface, better resource management, etc. It has helped us learn and paved the way for our future in programming and left us with more challenges and excitement for the future. In general, we learned the use of variables, printing in terminal, loops, arrays, pointers, file handling by reading, appending and writing, recursive functions, user defined functions, structures, function calls and effective use of functions. We also got to learn some practical things like, not everything we think will work actually works. So, we had to debug our way through the semantic errors, correcting our logic and thus helping us to learn various ways of debugging. We also learned the convenience a proper IDE provided and the importance of proper formatting while coding. We used VS Code with some extensions installed while coding which made our time more efficient.