

MINI PROJECT REPORT

(Project Term Sept - Nov 2018)

CGPA CALCULATOR

Python Programming (INT213)

Submitted By:

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Project video link : <https://tinyurl.com/CGPAcalculatorPython>

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Submitted To: Mr Ishan Kumar, Assistant Professor



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ACKNOWLEDGEMENT

We take this opportunity to present our votes of thanks to all those guideposts who really acted as lightning pillars to enlighten our way throughout this project that has led to the successful and satisfactory completion of this study.

We are really grateful to Ishan sir for providing us with an opportunity to undertake this project and providing us with all the facilities. I am highly thankful to sir for his active support, valuable time and advice, whole-hearted guidance, sincere cooperation and painstaking involvement during the study and in completing the assignment of preparing the said project within the time stipulated.

Lastly, I am thankful to all those, particularly the various friends , who have been instrumental in creating a proper, healthy and conducive environment and including new and fresh innovative ideas for us during the project, without their help, it would have been extremely difficult for us to prepare the project in a time-bound framework.

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INTRODUCTION

The project is based on – “**CGPA Calculator**”.

Cumulative Grade Point Average (CGPA) is an educational ranking/evaluation method. The CGPA is a figure that reflects the grade point average for all classes you have taken and for classes for which you have received credit by means such as testing at your school/College/University. School/College/university policies vary in the way they evaluate credit for courses transferred to your current school from another. Your school's registrar will have information about your school's policy. To calculate your CGPA you need to know the total number of grade points you have earned and the total number of credit hours you have attempted. While countries and institutions use a range of alpha-numerical grading scales, their formulas for calculating a student's cumulative grade point average (CGPA) score are basically the same. In mathematical terms, the CGPA score is a "weighted mean," wherein the influence each grade has on the cumulative score depends on the number of credit hours the course was worth. Additionally, courses audited or taken on a "Pass/Fail" basis are omitted from the CGPA calculations completely.

In this project, the user first login to his/ her account. If the user does not exists, so he/ she can create a new account through new user options. After login into the system, now user can see enter the names of course and course code and their respective credits and grade for both the semester of a session. When the user presses the reset button all the fields will be set to the default state. After filling the required information for Student name, Session, Registration number, Name of Courses, Course Title, Course Code, Credit Unit, Grade Letter then clicking on the “Calculate GPA” button will display the resulting CGPA on the screen.

In order to log out of the system, the user needs to click on the quit button.

Formula for calculating the CGPA:

$$\frac{\sum (No.ofCredits \times GradePoint)}{\sum (No.ofCredits)}$$

Semester	Code	Subject	Grade	Grade Point	Credit	Grade Point X Credit
1	09CH201	Environmental Studies	B	7	3	21
1	09EC218	Basic Electronics	B	7	3	21

Our Grade Point Consideration:

Grade	Grade Point
O	9
A+	8
A	7
B+	6
B	5
C+	4
C	3
D+	2
D	1
E	0

GUI Requirements:

CGPA
CALCULATOR

Sem 1

Subject 1

Subject 2

Subject 3

Subject 4

Subject 5

Subject 6

Grade	Credit

TGPA

Sem 2

Subject 1

Subject 2

Subject 3

Subject 4

Subject 5

Subject 6

Grade	Credit

TGPA

CGPA

Remarks

STUDENT ROLE AND RESPONSIBILITY

- **Himanshu Joshi :**

- Working with coding part of the programs.
- Making use of OOP concepts.
- Linking multiple windows together.
- Designing functions for calculation of CGPA using its formulas.
- Defining event handling for GUIs.

- **Akash Kumar :**

- Designing layouts using GUI.
- Making forms and text fields.
- Widgets and labels.
- Creating action buttons and menu.
- Designing working windows and login windows.

- **Mukul Deshantri :**

- Handling the databases.
- Working with SQLite3 in Python.
- Connecting the signals with the slots.
- Gathering records of students.

Requirement of project

Hardware and Software Requirements of Project

Hardware Requirement:

Here is the recommended hardware requirement for this software to run efficiently.

- 1) Intel Core i3 or higher processor
- 2) 10 MB RAM
- 3) 15 MB free hard disc space
- 4) SVGA monitors / Laptops
- 5) Printer (Optional)

Software Requirement:

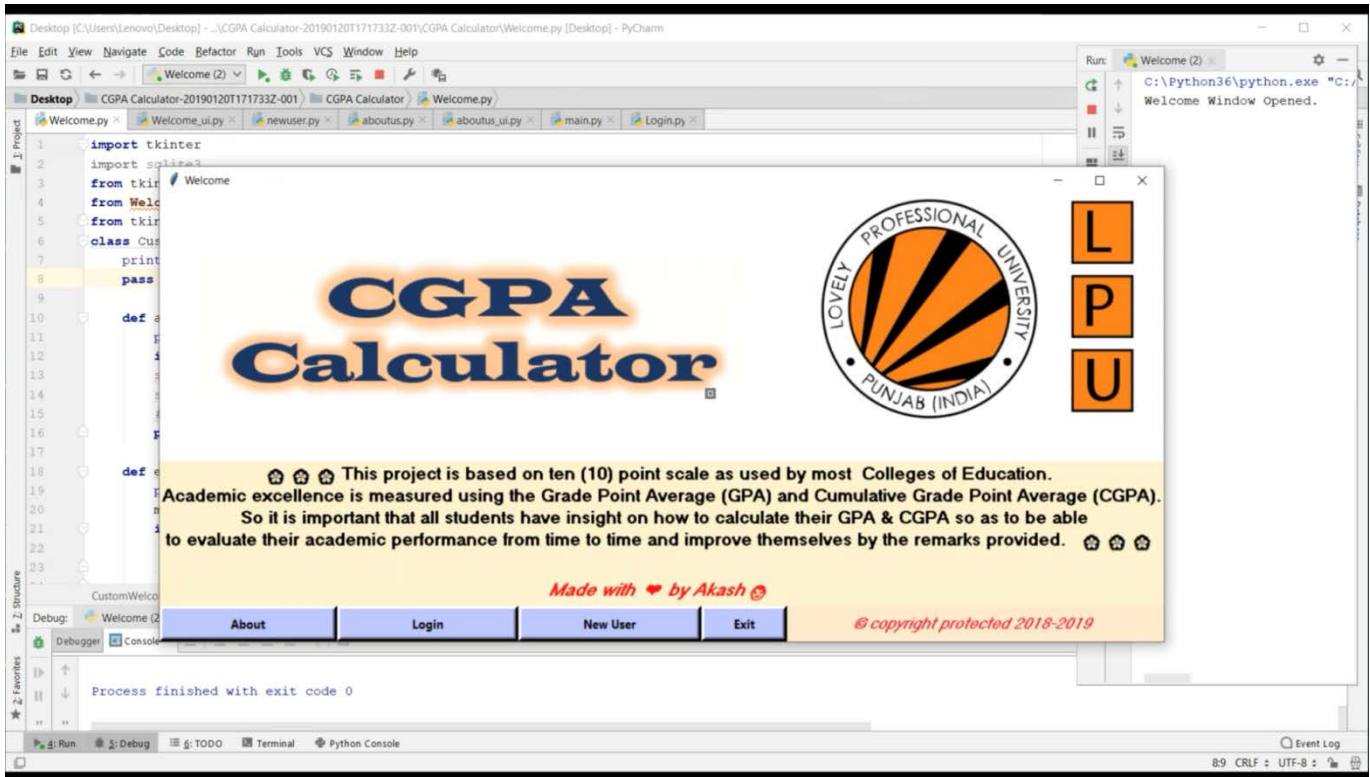
This software comes under application software. So the necessary software for this is

- 1) Windows operating system family.
- 2) Python Idle
- 3) Sqlite3 or any other database

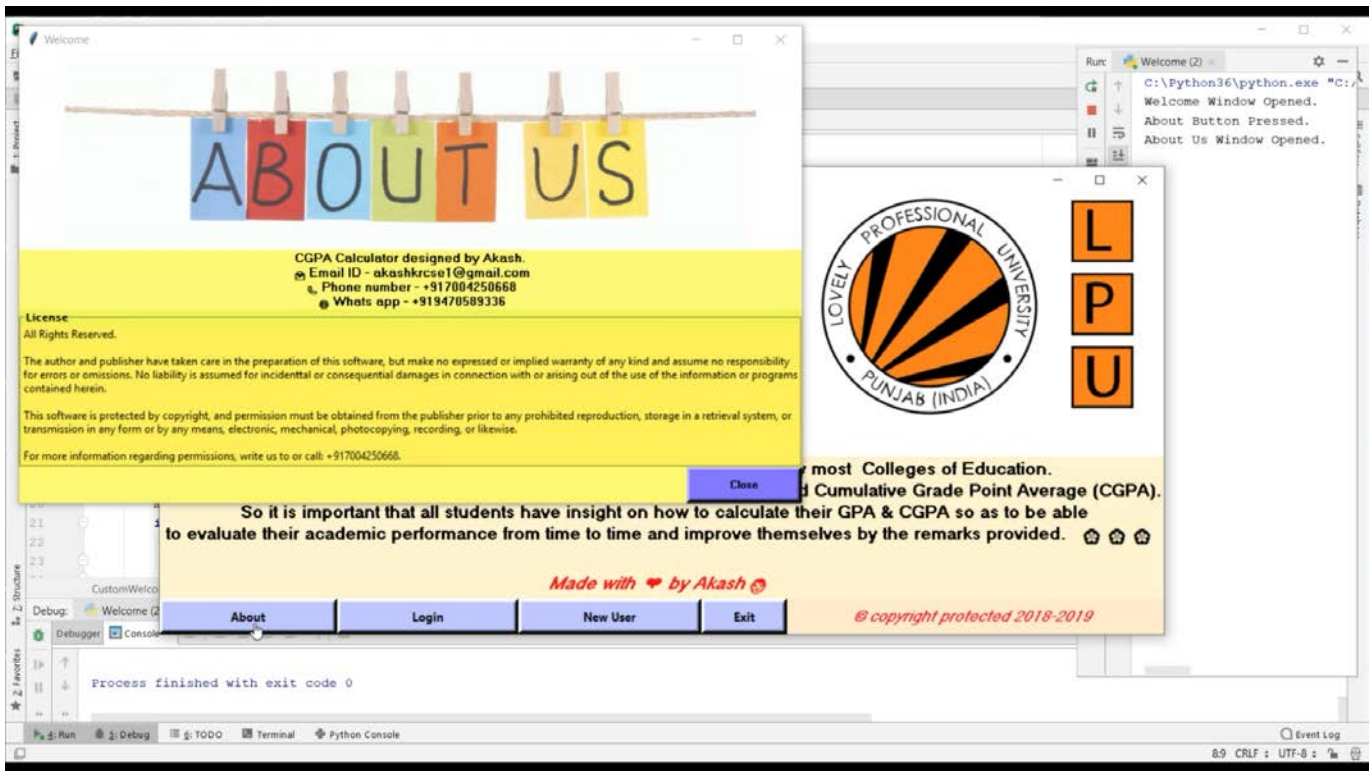
Current Status of the project

After taking the personal details from the user then we need to proceed further where the role of the actual working of the project starts. Now user can calculate their TGPA first with its formula. Then the average of TGPA will give CGPA with the help of the calculate button. Quit button will exit the application if the user doesn't want to calculate his/her CGPA anymore. Again if a user opens it will ask for username and password which will confirm from the database that if the user exists or not. If not then the new user can be created.

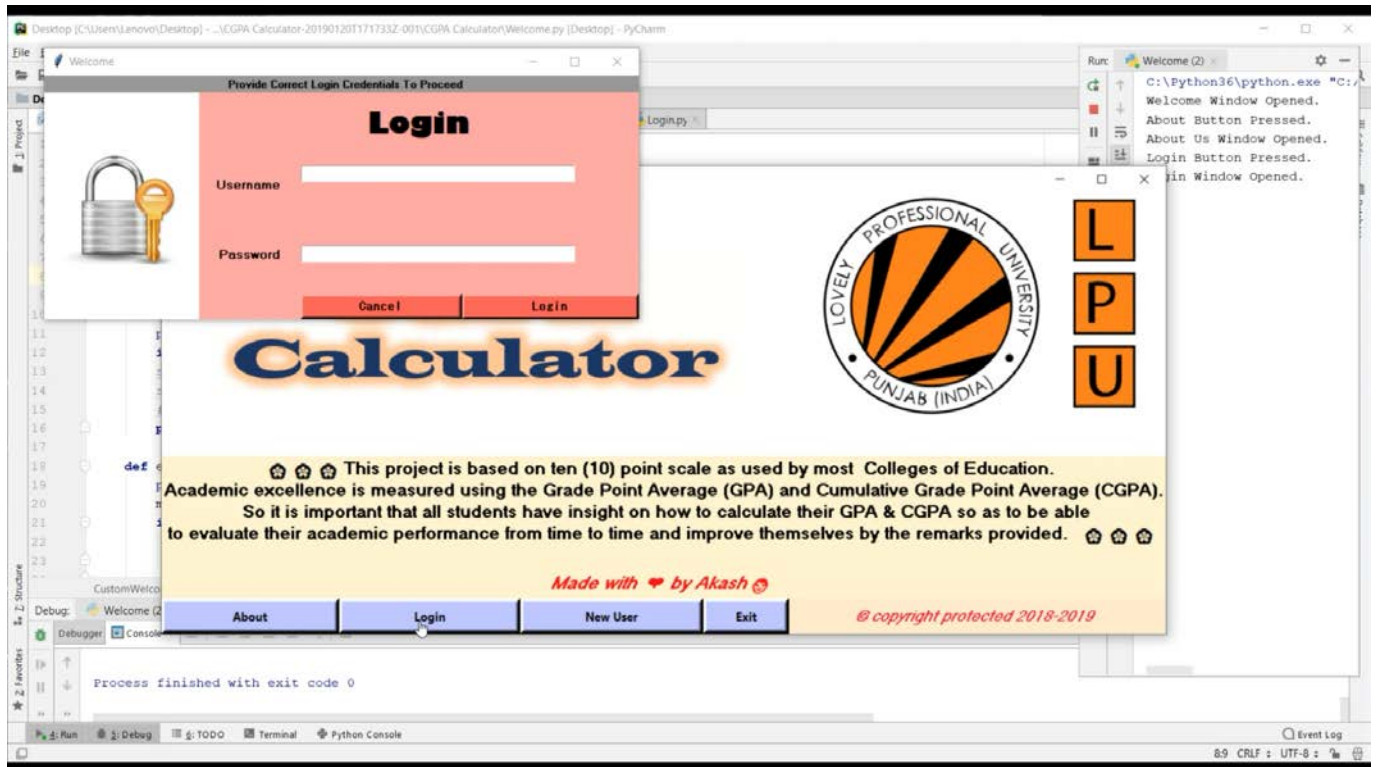
Screenshots



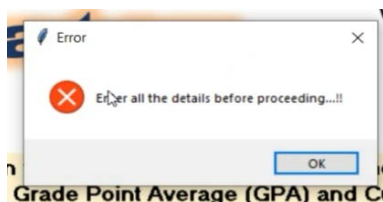
Home screen



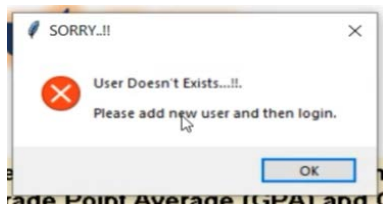
About Us Screen



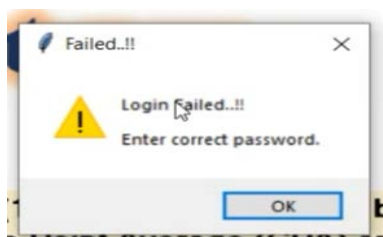
Login Screen



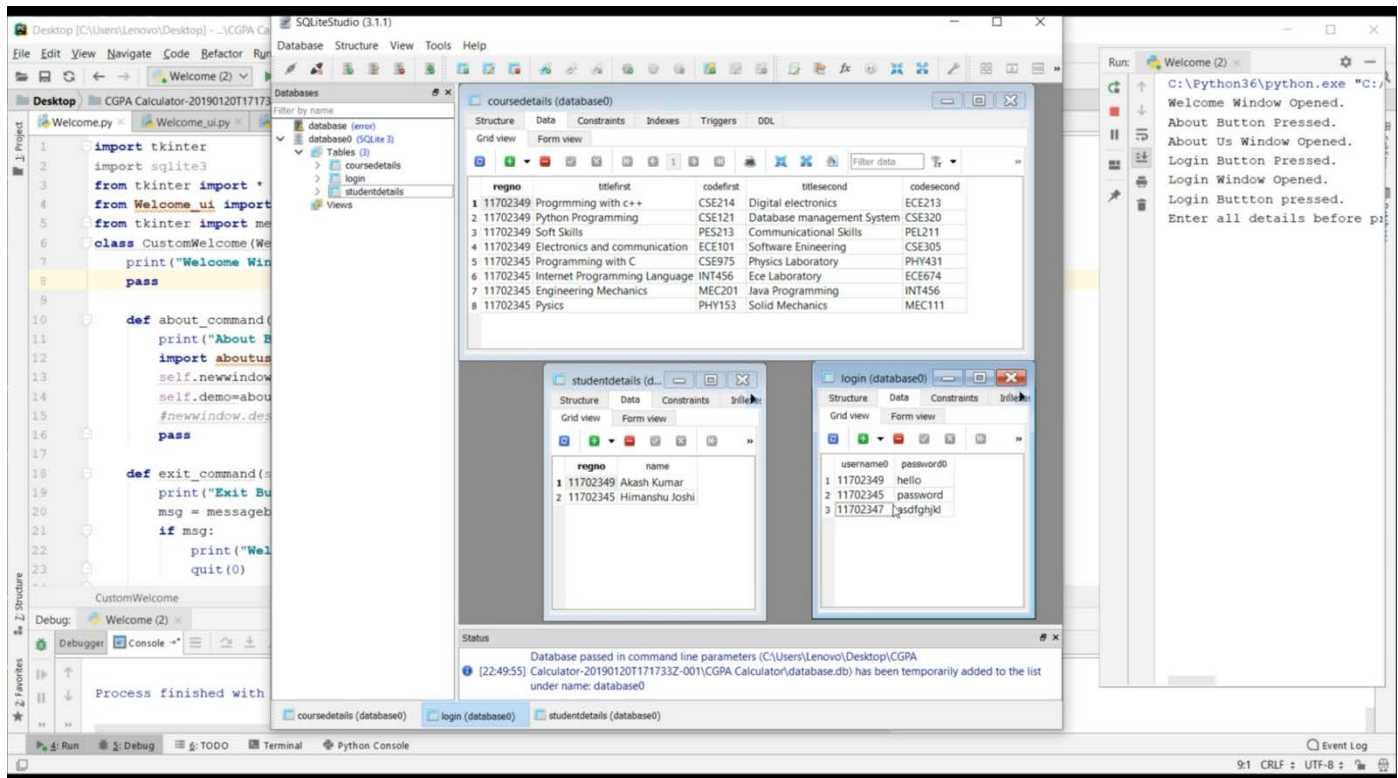
If user clicks login without filling all entries.



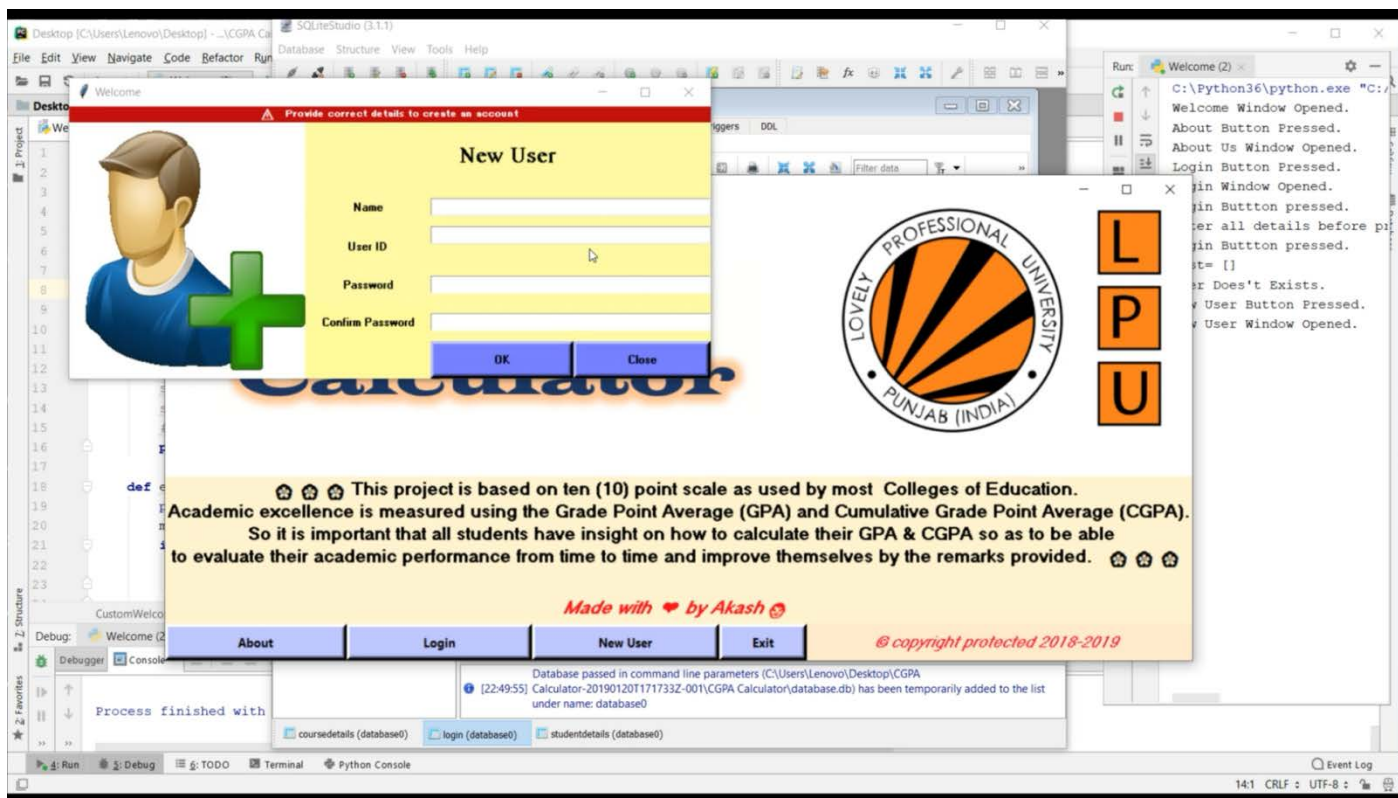
If user enters the username which is not present in the database. Then need to add New user



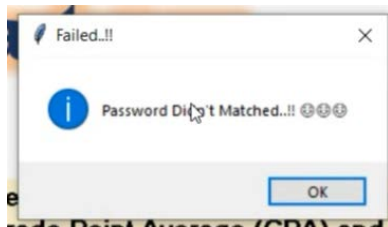
If user enters wrong password



Database



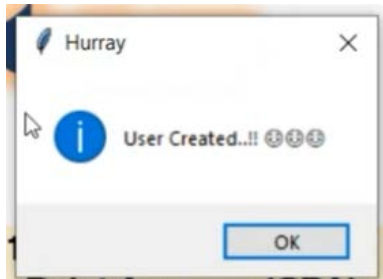
New User



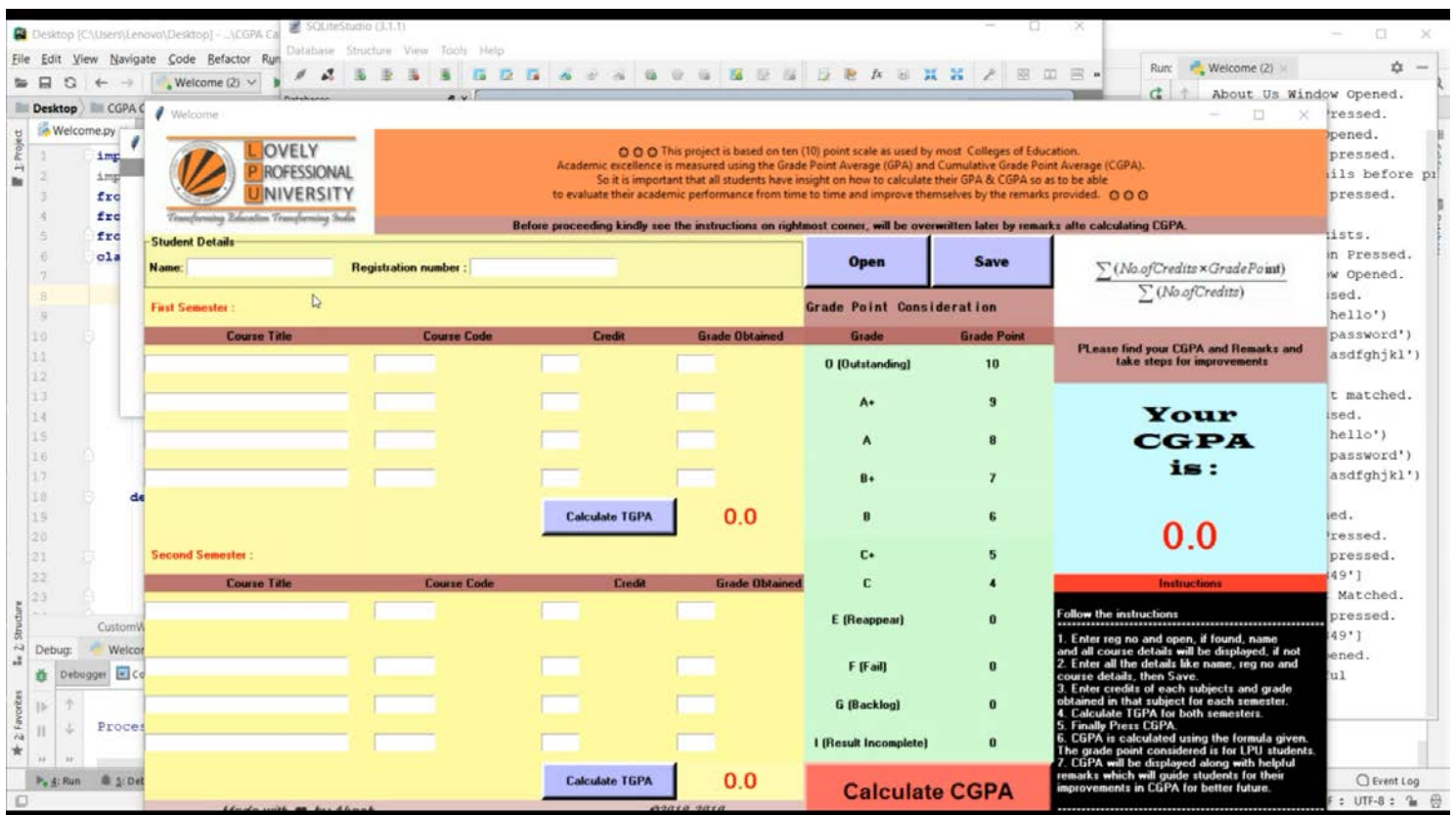
If password didn't matched in both password field and confirm password field



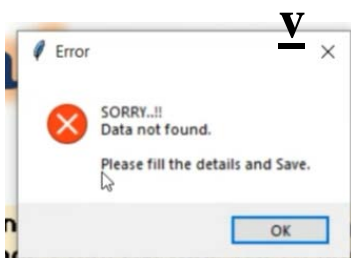
When correct username and password entered in login page



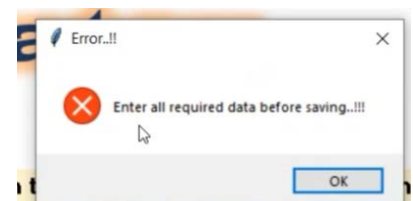
When both password matched, New user successfully created



Main Screen



if user opens data for a id which is not present in the database then it says data not found. If user clicks save button without filling all the data



Desktop [C:\Users\Lenovo\Desktop] - ...CGPA Calculator

SQLiteStudio (3.1.1)

File Edit View Navigate Code Refactor Run Database Structure View Tools Help

Desktop CGPA Calculator

Welcome

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○○○ This project is based on ten (10) point scale as used by most Colleges of Education. Academic excellence is measured using the Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA). So it is important that all students have insight on how to calculate their GPA & CGPA so as to be able to evaluate their academic performance from time to time and improve themselves by the remarks provided. ○○○

Before proceeding kindly see the instructions on rightmost corner, will be overwritten later by remarks after calculating CGPA.

Student Details
Name: Akash Kumar Registration number: 11702349

Open Save

First Semester:

Course Title	Course Code	Credit	Grade Obtained	Grade	Grade Point
Programming with c++	CSE214			0 (Outstanding)	10
Python Programming	CSE121			A+	9
Soft Skills	PES213			A	8
Electronics and communication	ECE101			B+	7

Calculate TGPA 0.0

Second Semester:

Course Title	Course Code	Credit	Grade Obtained	Grade	Grade Point
Digital electronics	ECE213			E (Reappear)	0
Database management System	CSE320			F (Fail)	0
Communicational Skills	PEL211			G (Backlog)	0
Software Engineering	CSE305			I (Result Incomplete)	0

Calculate TGPA 0.0

Calculate CGPA

Formula:
$$\frac{\sum (No.ofCredits \times GradePoint)}{\sum (No.ofCredits)}$$

Please find your CGPA and Remarks and take steps for improvements

Your CGPA is: 0.0

Instructions

Follow the instructions

1. Enter reg no and open, if found, name and all course details will be displayed, if not
2. Enter all the details like name, reg no and course details, then Save.
3. Enter credits of each subjects and grade obtained in that subject for each semester
4. Calculate TGPA for both semesters.
5. Finally Press CGPA.
6. CGPA is calculated using the formula given. The grade point considered is for LPU students.
7. CGPA will be displayed along with helpful remarks which will guide students for their improvements in CGPA for better future.

Data fetched from the database after clicking open button

Desktop [C:\Users\Lenovo\Desktop] - ...CGPA Calculator

SQLiteStudio (3.1.1)

File Edit View Navigate Code Refactor Run Database Structure View Tools Help

Desktop CGPA Calculator

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Before proceeding kindly see the instructions on rightmost corner, will be overwritten later by remarks after calculating CGPA.

Student Details
Name: Akash Kumar Registration number: 11702349

Open Save

First Semester:

Course Title	Course Code	Credit	Grade Obtained	Grade	Grade Point
Programming with c++	CSE214	2	c	0 (Outstanding)	10
Python Programming	CSE121	3	a	A+	9
Soft Skills	PES213	1	a+	A	8
Electronics and communication	ECE101	4	b	B+	7

Calculate TGPA 6.50

Second Semester:

Course Title	Course Code	Credit	Grade Obtained	Grade	Grade Point
Digital electronics	ECE213	2	b	E (Reappear)	0
Database management System	CSE320	3	a	F (Fail)	0
Communicational Skills	PEL211	4	c	G (Backlog)	0
Software Engineering	CSE305	1	a+	I (Result Incomplete)	0

Calculate TGPA 6.10

Calculate CGPA

Formula:
$$\frac{\sum (No.ofCredits \times GradePoint)}{\sum (No.ofCredits)}$$

Please find your CGPA and Remarks and take steps for improvements

Your CGPA is: 6.30

Remarks

Dear Akash Kumar,
Your performance is just Good you need to work hard in order to have a good future. It's neither good nor bad. You can do much better than this. Just focus on your studies. All the best for your future and remember to keep working hard always...!!! ○○○

Final result which remarks w.r.t their CGPA score

Future Scope and Limitation

This software has demands in private and public area. This software provides a great help in managing the data in a well-mannered order. This project is designed specially to maintain the data in a sequential manner and to save the time and efforts of Database Administrator. The project is structured according to today's need.

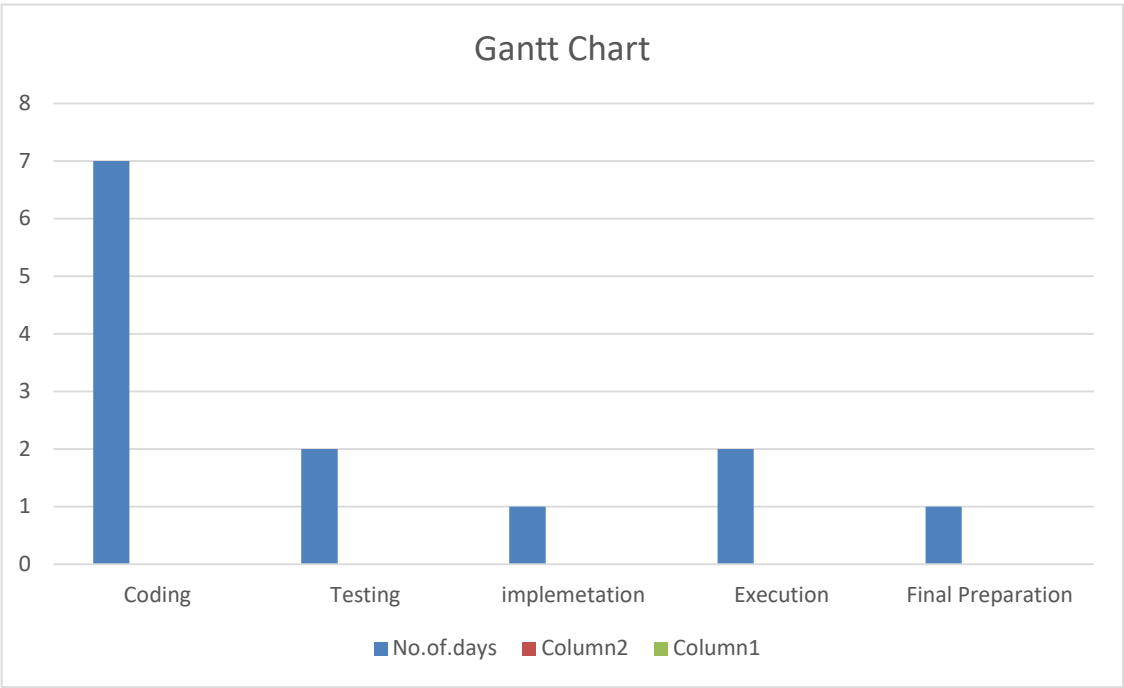
Due to time constraint, it is possible that some points might remain uncovered by us. In the future, we will update our software to give valuable information left at present.

Though the system has been designed according to the requirements of the users it has its own limitation. Thus the limitation of the system are-

- 1.) No facility to create new users with different roles
 - 2.) Object-oriented Approach has been not been fully utilized
-

Gantt chart:

RESPONSIBILITY	Time taken
Project coding	7 days
Testing	2 days
Implementing	1 days
Executing	2 days
Final preparations	1 days
TOTAL	13 days(2 weeeeks(approx))



SWOT ANALYSIS

1.Strength :

- Solves the problem easily in an understandable manner.
- Easy to understand.
- Less time required to implement.
- Easy to find CGPA.

2.Weakness :

- Can't hold too many values at the same time.
- Errors can easily occur.

3.Opportunities :

- Can be developable by any other user who can access the program.
- More updates in the future can be available.

4.Threats :

- Can be easily destructible.

Bibliography

The matter contained in this project has been taken from the given links:-

* how to think like a computer scientist by Allen Downey, Jeffrey Felkner, Chris

* https://www.tutorialspoint.com/python/python_gui_programming.htm

* <https://readthedocs.org/projects/python-guide/downloads/pdf/latest/>

* www.w3resource.com/python/python-tutorial.php

Thank You
