PROJECT REPORT

END-TERM REPORT

CGPA CALCULATOR

Python Programming (INT213)

Submitted By:

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We are really grateful to Chavi mam for providing us with an opportunity to undertake this project and providing us with all the facilities.

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Contents

INTRODUCTION

Project- “CGPA Calculator”.

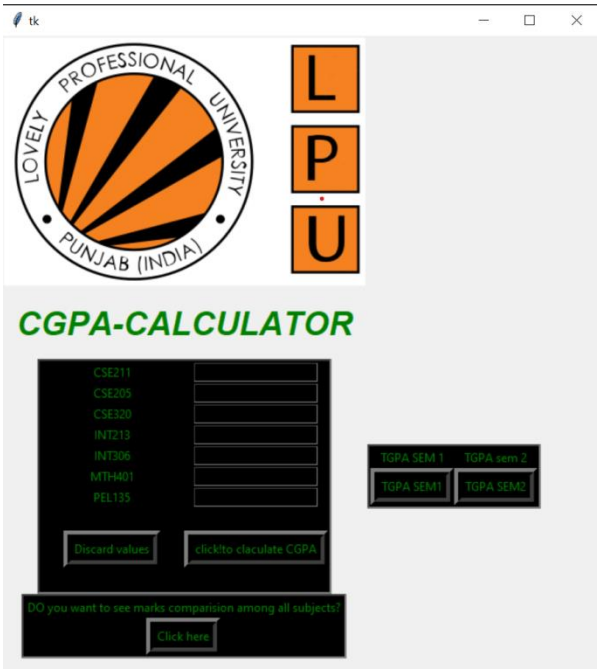
Cumulative Grade Point Average (CGPA) is an educational ranking/evaluation method. The CGPA is a figure that reflects the grade point average for all classes you have taken and for classes for which you have received credit by means such as testing at your school/College/University. School/College/university. Policies vary in the way they evaluate credit for courses transferred to your current school from another. 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. 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.

DESCRIPTION

(with screenshots)

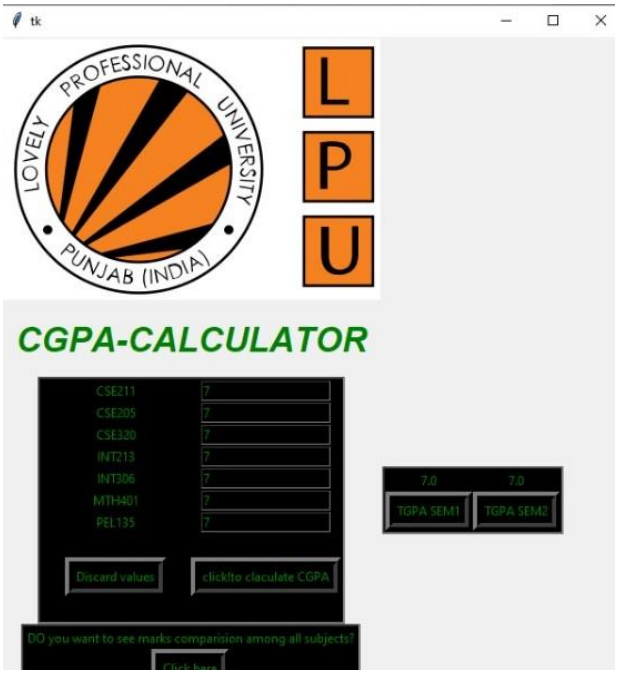
Formula for calculating the CGPA:

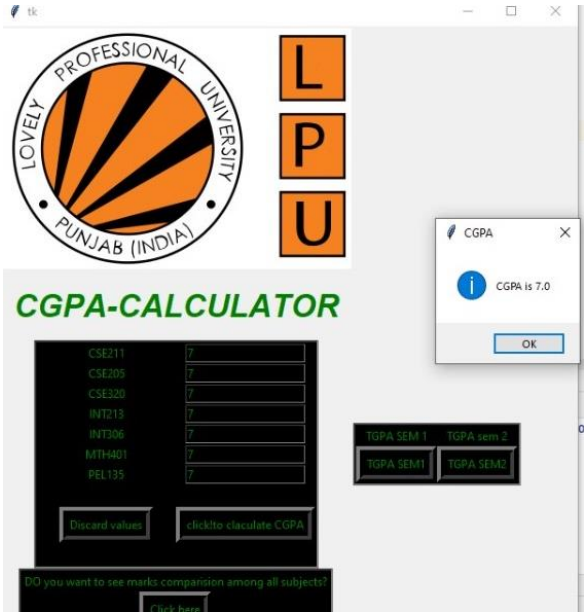
$$\frac{\sum(No.ofCredits \times GradePoint)}{\sum(No.ofCredits)}$$



This interface opens after user runs the program. Window shows 7 subjects with input fields in front of them where user is supposed to enter inputs.

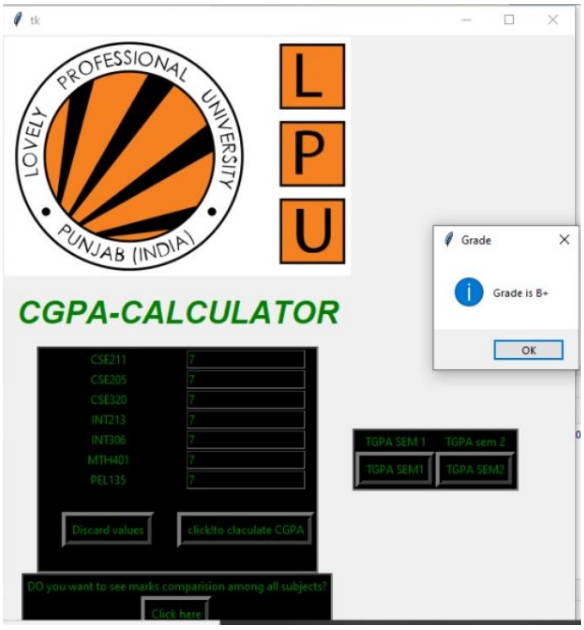
User enters their GPA of each subject in the input fields and press the “Calculate CGPA” button which shows the result(as shown in next screenshot).

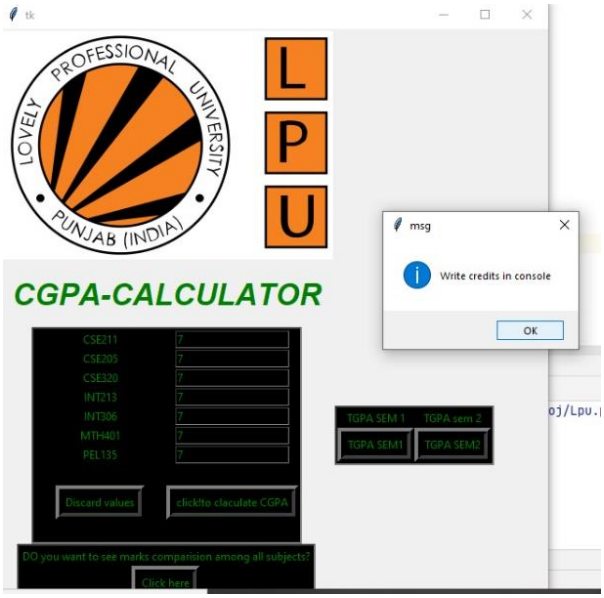




As soon as the user presses the calculate button a message box opens that shows the user’s cgpa

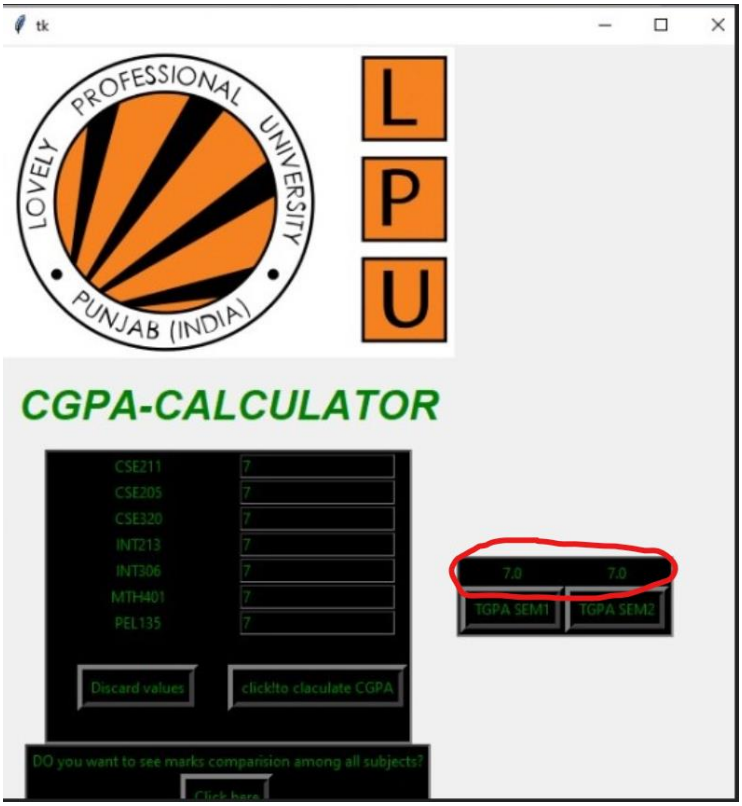
After pressing the OK button on the message box another message box opens showing the user’s grade.





To calculate TGPA click on “Calculate TGPA” button which opens a message box that displays message to enter credits of 7 subjects into the console.

After entering the credits of 7 subjects in the console the interface displays the TGPA of the user above the TGPA button panel.



Our grade point consideration

Grade	Grade Point
O	10
A+	9
A	8
B+	7
B	6
C+	5
Reappear	4
Below “Fail”	

Module used- Tkinter

Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

Creating a GUI application using Tkinter is an easy task. All we need to do is perform the following steps-

- Import the: Tkinter: module.
- Create the GUI application main window.
- Add one or more of the above-mentioned widgets to the GUI application

- Enter the main event loop to take action against each event triggered by the user.

Tkinter Widgets

Tkinter provides various controls, such as buttons, labels, and text boxes used in a GUI application. These controls are commonly called widgets.

Geometry Management

All Tkinter widgets have access to specific geometry management methods, which have the purpose of organizing widgets throughout the parent widget area. Tkinter exposes the following geometry manager classes: pack, grid, and place.

- The:pack():Method:− This geometry manager organizes widgets in blocks before placing them in the parent widget. The:grid():Method:− This geometry manager organizes widgets in a table-like structure in the parent widget.
- The: place():Method:− This geometry manager organizes widgets by placing them in a specific position in the parent widget.
- The: place():Method:− This geometry manager organizes widgets by placing them in a specific position in the parent widget.

STUDENT ROLE AND RESPONSIBILITY

Ayush Sharma :

- Design layout using GUI.
- Program Logic to calculate TGPA and CGPA.
- Designing functions for calculation of CGPA using its formulas.

Abhishek Rana:

- Making forms and text fields.
- Creating action buttons.

Rohan Pandey :

- Widgets (Labels)
- Documentation(Report and ppt)

Learning Outcomes:

- We learnt the practical use of python and Tkinter to make an interactive graphical user interface.
- We explored the usage of basic python statements like 'If else' and creating functions in implementing our project for CGPA calculator where the logic was developed using the basic if-else statements and method calls.
- We learnt about the usage of Tkinter module for a full fledged project.

Conclusion :

This project was made using the module Tkinter in python wherin a user can calculate the CGPA and TGPA and view the result accordingly using the program.

Bibliography

The matter contained in this project has been made with help of content from the given links:-

* 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

Github links

https://github.com/ayush9599sharma/CGPA-Calculator

https://github.com/Abhishek-133/CGPA-calculator

https://github.com/rohanpandey1/CGPA-calculator