Gpa-Cgpa Documentation

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DocBook is about how to use the GPA and CGPA calculator as a user guide.

Abstract

The User Documentation serves the purpose to guide the user's of GPA and CGPA calculator. GPA refers to the Grade Point Average where the CGPA is Cumulative Grade Point Average. Through the guide, the user shall be able to learn how to use the program or in some scenario the desktop software concurrently.

1.1 Preface

1.1.1 1. Document Conventions

This manual uses several conventions to highlight certain words and phrases and draw attention to specific pieces of information. In PDF and paper editions, this manual uses typefaces drawn from the Liberation Fonts set. The Liberation Fonts set is also used in HTML editions if the set is installed on your system. If not, alternative but equivalent typefaces are displayed. Note: Red Hat Enterprise Linux 5 and later includes the Liberation Fonts set by default.

1.1. Typographic Conventions

Four typographic conventions are used to call attention to specific words and phrases. These conventions, and the circumstances they apply to, are as follows. Mono-spaced Bold Used to highlight system input, including shell commands, file names and paths. Also used to highlight keycaps and key combinations. For example:

> To see the contents of the file my_next_bestselling_novel in your current working directory, enter the cat my_next_bestselling_novel command at the shell prompt and press Enter to execute the command.

The above includes a file name, a shell command and a keycap, all presented in mono-spaced bold and all distinguishable thanks to context. Key combinations can be distinguished from keycaps by the hyphen connecting each part of a key combination. For example:

> Press Enter to execute the command. Press Ctrl+Alt+F2 to switch to the first virtual terminal. Press Ctrl+Alt+F1 to return to your X-Windows session.

The first paragraph highlights the particular keycap to press. The second highlights two key combinations (each a set of three keycaps with each set pressed simultaneously). If source code is discussed, class names, methods, functions, variable names and returned values mentioned within a paragraph will be presented as above, in mono-spaced bold. For example:

> File-related classes include filesystem for file systems, file for files, and dir for directories. Each class has its own associated set of permissions.

Proportional Bold This denotes words or phrases encountered on a system, including application names; dialog box text; labeled buttons; check-box and radio button labels; menu titles and sub-menu titles. For example:

Choose System → Preferences → Mouse from the main menu bar to launch Mouse Preferences. In the Buttons tab, click the Left-handed mouse check box and click Close to switch the primary mouse button from the left to the right (making the mouse suitable for use in the left hand). To insert a special character into a gedit file, choose Applications → Accessories → Character Map from the main menu bar. Next, choose Search → Find... from the Character Map menu bar, type the name of the character in the Search field and click Next. The character you sought will be highlighted in the Character Table. Double-click this highlighted character to place it in the Text to copy field and then click the Copy button. Now switch back to your document and choose Edit → Paste from the gedit menu bar.

The above text includes application names; system-wide menu names and items; application-specific menu names; and buttons and text found within a GUI interface, all presented in proportional bold and all distinguishable by context. Mono-spaced Bold Italic or Proportional Bold Italic Whether mono-spaced bold or proportional bold, the addition of italics indicates replaceable or variable text. Italics denotes text you do not input literally or displayed text that changes depending on circumstance. For example:

To connect to a remote machine using ssh, type ssh username@domain.name at a shell prompt. If the remote machine is example.com and your username on that machine is john, type ssh john@example.com. The mount -o remount file-system command remounts the named file system. For example, to remount the /home file system, the command is mount -o remount /home. To see the version of a currently installed package, use the rpm -q package command. It will return a result as follows: package-version-release.

Note the words in bold italics above — username, domain.name, file-system, package, version and release. Each word is a placeholder, either for text you enter when issuing a command or for text displayed by the system. Aside from standard usage for presenting the title of a work, italics denotes the first use of a new and important term. For example:

Publican is a DocBook publishing system.

1.2. Pull-quote Conventions

Terminal output and source code listings are set off visually from the surrounding text. Output sent to a terminal is set in mono-spaced roman and presented thus:

books Desktop documentation drafts mss photos stuff svn books_tests Desktop1 downloads images notes scripts svgs

Source-code listings are also set in mono-spaced roman but add syntax highlighting as follows:

package org.jboss.book.jca.ex1; import javax.naming.InitialContext; public class ExClient {

public static void main(String args[]) throws Exception

{ InitialContext iniCtx = new InitialContext(); Object ref = iniCtx.lookup("EchoBean"); EchoHome home = (EchoHome) ref; Echo echo = home.create();

System.out.println("Created Echo");

System.out.println("Echo.echo('Hello') = " + echo.echo("Hello"));

}

}

1.3. Notes and Warnings

Finally, we use three visual styles to draw attention to information that might otherwise be overlooked.

1.1.2 Note

Notes are tips, shortcuts or alternative approaches to the task at hand. Ignoring a note should have no negative consequences, but you might miss out on a trick that makes your life easier.

1.1.3 Important

Important boxes detail things that are easily missed: configuration changes that only apply to the current session, or services that need restarting before an update will apply. Ignoring a box labeled 'Important' will not cause data loss but may cause irritation and frustration.

1.1.4 Warning

Warnings should not be ignored. Ignoring warnings will most likely cause data loss.

1.1.5 2. We Need Feedback!

You should over ride this by creating your own local Feedback.xml file.

1.2 About: Gpa-Cgpa

1.2.1 Chapter a: About GPA and CGPA DocBook

The DocBook is about how to use the GPA and CGPA calculator. This is chapter one of the DocBook.

1.1. About the GPA and CGPA DocBook

The User Guide is authored to help the end-user[1] and the reader community to use the piece of the GPA-CGPA calculator. The user guide is simple to read with the help of the table of contents or even with the index in the guide. The preliminary research shows that one of thousand students are using the calculator to measure the GPA and CGPA.

The User Guide is being detailed with appropriate images. This includes the necessary layout, and the actual content. The first chapter is based on the brief of the GPA and CGPA literature. The readers will enjoy while they are going through the chapter. That chapter not only helps the user of the application to know about their WH but also use the content while they are talking about the program. The Second Chapter will help the user to familia with the actual process to use the software[2]. This chapter will help the user to know how to use the program. The last but the least chapter is the source of the author and the debug[3] information.

User feedback[4] will help the author of the program to update the program. Though the feedback is not an essential part but it always helps to the program to learn and fix the mistake. Simply, the chapter is a provision for future expansion and maintenance.

Please enjoy the reading, and hopefully there will be a committed relationship when you choose to read the User Guide[6].

1.2. About GPA and CGPA

Grading in education is the process of applying standardized measurements of varying levels of achievement in a course.

Grades[7] can be assigned in letters (for example A, B, C, D, E or F), as a range (for example 1 to 6), as a percentage of a total number correct, as a number out of a possible total (for example out of 20 or 100), or as descriptors (excellent, great, satisfactory, needs improvement).

In some countries, all grades from all current classes are averaged to create a grade point average (GPA) for the marking period. The GPA is calculated by taking the number of grade points a student earned in a given period of time

divided by the total number of credits taken[8].The GPA can be used by potential employers or educational institutions to assess and compare applicants. A Cumulative Grade Point Average is a calculation of the average of all student's grades for all courses completed so far.

Grades in courses are based on the instructor's judgment[9] of a student's achievement.

Students who dispute a grade should follow grade mediation and adjudication procedures. Semester/session grade-point average and cumulative grade-point average are calculated to represent numerically a student's quality of performance. These averages are used to determine if a student qualifies for certain academic actions (e.g., Dean's List, academic warning/drop, entrance to and changes in college/major, and graduation) and programs (e.g., student aid and study abroad).

1.3. Etymology

The etymology[10] of the Grade is: French grade ("a grade, degree"), from Latin gradus ("a step, pace, a step in a ladder or stair, a station, position, degree"), from gradi ("to walk, step"), from Proto-Indo-European * gh raddh -, ghreddh - ("to walk, go"). Cognate with Gothic (griρs,"step, grade"), Bavarian Gritt ("step, stride"), Lithuanian grìdiju ("to go, wander").

1.4. History of Grading

Yale University historian George W. Pierson writes "According to tradition the first grades issued at Yale (and possibly the first in the country) were given out in the year 1785, when President Ezra Stiles, after examining 58 Seniors, recorded in his diary that there were 'Twenty Optimi, sixteen second Optimi, twelve Inferiores (Boni), ten Pejores [11]'" Keith Hoskin argues that the concept of grading students' work quantitatively was developed by a tutor named William Farish and first implemented by the University of Cambridge in 1792[12]. Hoskin's assertion has been questioned by Christopher Stray, who finds the evidence for Farish as the inventor of the numerical mark to be unpersuasive[13]. Stray's article elucidates the complex relationship between the mode of examination (testing), in this case oral or written, and the varying philosophies of education these modes imply, both to teacher and student. As a technology, grading both shapes and reflects many fundamental areas of educational theory and practice.

1.5. Grade and Grade Point

Grades in courses are based on an instructor's judgement of a student's achievement. Semester/session grade-point average and cumulative grade-point average are calculated to represent numerically a student's quality of performance. These averages are used to determine if a student qualifies for certain academic actions (e.g., Dean's List, academic warning/drop, entrance to and changes in college/major, and graduation) and programs (e.g., student aid and study abroad).

1.5.1. Grade Point Average

Grades and numerical grade-point equivalents have been established for varying levels of student's academic performance. These grade-point equivalents are used to determine a student's grade-point average.

1.5.1.1. Grade Performance and Point

Performance	Description	Grade	Grade Point
Outstanding	Exceptional achievement	A+	4.00
Outstanding	Exceptional achievement	A	3.75
Outstanding	Exceptional achievement	A-	3.50
Outstanding	Exceptional achievement	B+	3.25
Good	Extensive achievement	B	3.00
Good	Entensive achievement	B-	2.75
Good	Extensive achievement	C+	2.50
Satisfactory	Acceptable achievement	C	2.25
Poor	Miniamal achievement	D	2.0
Failure	Inadequate achievement	F	Less than 2.00

1.5.1.2. Semester or Session Grade Point Average

A student's Grade Point Average is the weighted mean value of all grade points he/she earned by enrollment, or through credit by examination, in a semester/session of attendance at university.

1.5.1.3. Grade Point Average Calculation

To calculate a grade point average,

1. Determine the grade points earned in each course by multiplying course credits by the appropriate grade-point equivalent

2. Add the grade points earned in each course to calculate a semester total, and

3. Divide this sum by the number of credits taken to determine the semester/session grade point average

Equation 1.1. Gpa Calculation Method

$$GPA = \frac{\sum(CourseCreditsXGradePoint)}{\sum CreditsAttempted}$$

Figure 1.1: [Equation 1.1] Gpa calculation equation

1.5.1.4 Example how to calculate the GPA

Course	Grade Achieved	Credit Value		Grade Point	Total Grade Point
	1		D		3.00
	x		2.00		= 6.00
2	C+	3.00	x	2.50	= 7.50
3	B	1.00	x	3.50	= 3.50
4	A-	3.00	x	3.50	= 10.50
5	F	1.00	x	0.00	= 0.00
	Total Credits	11.00		Total GP	= 27:00

Equation 1.2. Gpa Calculation Method and Result

1.5.2. Cumulative Grade Point Average

Cumulative Grade Point Average (CGPA) is based on the whole academic year evaluation or performance grade point. Usually, the CGPA is being calculate at the end of the entire academic year.

1.5.2.1. Grade Performance and Point

$$GPA = \frac{27.00}{11} = 2.45 = \text{Status "Satisfactory"}$$

Figure 1.2: [Equation 1.2] Gpa calculation result

Performance	Description	Grade	Grade Point
Outstanding	Exceptional achievement	A+	4.00
Outstanding	Exceptional achievement	A	3.75
Outstanding	Exceptional achievement	A-	3.50
Outstanding	Exceptional achievement	B+	3.25
Good	Extensive achievement	B	3.00
Good	Entensive achievement	B-	2.75
Good	Extensive achievement	C+	2.50
Satisfactory	Acceptable achievement	C	2.25
Poor	Miniamal achievement	D	2.0
Failure	Inadequate achievement	F	Less than 2.00

1.5.2.2. Cumulative Grade Point Average

A student's cumulative grade-point average is the weighted mean value of all grade points he/she earned by enrollment in university courses. Cumulative Grade Point Average (CGPA) refers to the overall GPA, which includes dividing the number of quality points earned in all courses attempted by the total degree-credit hours in all attempted courses. The semester or term GPA is your Grade Point Average for that one term or semester. The Cumulative GPA is you grade point average for all attempted courses in the program.

1.5.2.3. Cumulative Grade Point Average Calculation

To calculate a cumulative grade point average, total the credit hours and then the grade points from all semesters. Divide the total grade points by the total credit hours.

1. Determine total the credit hours from all semesters

2. Determine the grade points from all semesters

3. Divide the total grade points by the total credit hours

Equation 1.3. CGPA Calculation Method

$$CGPA = \frac{\sum GradePoint}{\sum CreditsAttempted}$$

Figure 1.3: [Equation 1.3] Cgpa calculation equation

1.5.2.4 Example how to calculate the CGPA

Course	Grade Achieved	Credit Value		Grade Point	Total Grade Point
	1		D		3.00
	x		2.00		= 6.00
2	C+	3.00	x	2.50	= 7.50
3	B	1.00	x	3.50	= 3.50
4	A-	3.00	x	3.50	= 10.50
5	F	1.00	x	0.00	= 0.00
	Total Credits	11.00		Total GP	= 27:00

Equation 1.4. CGPA Calculation Method and Result

$$\text{CGPA} = \frac{27.00}{11} = 2.45 = \text{Status "Satisfactory"}$$

Figure 1.4: [Equation 1.4] Cgpa calculation results

1.6. Aim of the GPA and CGPA Calculator

The GPA and CGPA calculator is an academic tool to calculate the student performance either at university or the official usage. Therefore, the following aim has been estimated based on the usage of the calculator:

1. To calculate the semester grade point

2. To calculate the performance of total academic year

3. The student can know how hard s/he has to work hard by calculating the possible grade

4. To provide the desktop based personal program

5. To use in the corporate environment

1.7. Grading System of Bangladesh

The grading system in Bangladesh[14] is controlled by the University Grant Commission(UGC). The grading point measurement is universal for all the public and private universities[15] in Bangladesh. The following table is the grade point measurement with the minor modification (the user of the program can avoid the modification portion if s/he dislikes the fragment of the program):

Table 1.5. Grading system of Bangladesh

Score	Letter grade	Grade point	Performance
	0 - 100		A+
	4.00		Outstanding
75 - < 80	A	3.75	Outstanding
70 - < 75	A-	3.75	Outstanding
65 - < 70	B+	3.75	Outstanding
60 - < 65	B	3.00	Good
55 - < 60	B-	2.75	Good
50 - < 55	C+	2.50	Good
45 - < 55	C+	2.50	Satisfactory
40 - < 45	D	2.00	Poor
0 - < 40	F	0.00	Failure

[1] An end user of a computer system or software is someone who uses it.

[2] Computer software, or just software, is any set of machine-readable instructions that directs a computer's processor to perform specific operations. The term is used to contrast with computer hardware, the physical objects (processor and related devices) that carry out the instructions. Computer hardware and software require each other and neither can be realistically used without the other.

[3] Debugging is a methodical process of finding and reducing the number of bugs, or defects, in a computer program or a piece of electronic hardware, thus making it behave as expected. Debugging tends to be harder when various subsystems are tightly coupled, as changes in one may cause bugs to emerge in another.

[4] Feedback is a process in which information about the past or the present influences the same phenomenon in the present or future. As part of a chain of Cause and Effect[5] that forms a circuit or loop, the event is said to "feed back" into itself.

[5] A cause is WHY something happens. An effect is WHAT happens.

[6] A user guide or user's guide, also commonly known as a manual, is a technical communication document intended to give assistance to people using a particular system. It is usually written by a technical writer, although user guides are written by programmers, product or project managers, or other technical staff, particularly in smaller companies

[7] http://en.wikipedia.org/wiki/Grade

[8] Grade Point Average,(n), Retrieved November 25, 2013, http://dictionary.reference.com/browse/grade

[9] Judgment is the cognitive process of reaching a decision or drawing conclusions.

[10] The origin and historical development of a linguistic form as shown by determining its basic elements, earliest known use, and changes in form and meaning, tracing its transmission from one language to another, identifying its cognates in other languages, and reconstructing its ancestral form where possible. http://www.thefreedictionary.com/etymology

[11] Pierson, George (1983). New Haven: Yale Office of Institutional Research A Yale Book of Numbers. p. 310. [12] Postman, Neil (1992). New York: Alfred A. Knopf. p. 13.

[13] Christopher Stray, "From Oral to Written Examinations: Cambridge, Oxford and Dublin 1700 to 1914", History of Universities 20:2 (2005), 94,95.

[14] http://www.ugc.gov.bd

[15] http://en.wikipedia.org/wiki/List_of_universities_in_Bangladesh

1.3 User Guide: GPA-CGPA

The user guide is the frequent draft of how to use the grade point average and commulative grade point average in Bangladesh's educational perspective. Please enjoy while using the gamma version of the application fragment. The application is open source and she is ready to serve your personal gpa_cgpa calculations..

1.3.1 Chapter ii. User Guide

Please enjoy while safeguarding the personalization!

2.1. Install the GpaCgpa Program

To measure the Grade Point Average or Cumulative Grade Point Average program, the end user need to download the program[16] from the web link. The process to download the program is simple and the user requires few knowledge how to use the website using the web browser. It is recommended to follow the procedure given:

Step 1: Open any web browser of your choice (Firefox, Chrome, Safari, Internet Explorer)

Step 2: Go to the address bar and type "http://sourceforge.net/projects/cgpagpa/"

Step 3: Click on the Download Button

Step 4: Soon after downloading the CgpaGpa.zip, extract the file

Check that you have Java Virtual Machine(JVM) installed on your computer:

1. Open the Command Prompt (CMD)

2. Type 'java -jar GpaCgpa.jar'

3. The program will launch soon after providing the above command in CMD

..note:

```
Start Menu > Programs > Accessories > Command Prompt
```

..warning:

```
java -jar GpaCgpa.jar
```

..important:

```
If there is no JVM installed in the computer, please visit the website to know more about ho
```

```
1. Know about JVM: http://docs.oracle.com/javase/specs/jvms/se7/html/
```

```
2. Download the JVM and install the software in your machine: https://java.com/en/download/i
```

```
3.  Open the Command Prompt from the Start Menu; see the notification below..
```

```
4.  Start typing the command java -jar GpaCgpa.jar at the command prompt
```

```
5.  The Gpa and Cgpa Calculator will launch soon after providing the above command in CMD su
```

..important:

```
Java version and command to run the program
```

..note:

```
Start Menu > All Programs > Accessories > Command Prompt
```

..warning:

```
java -jar GpaCgpa.jar
```
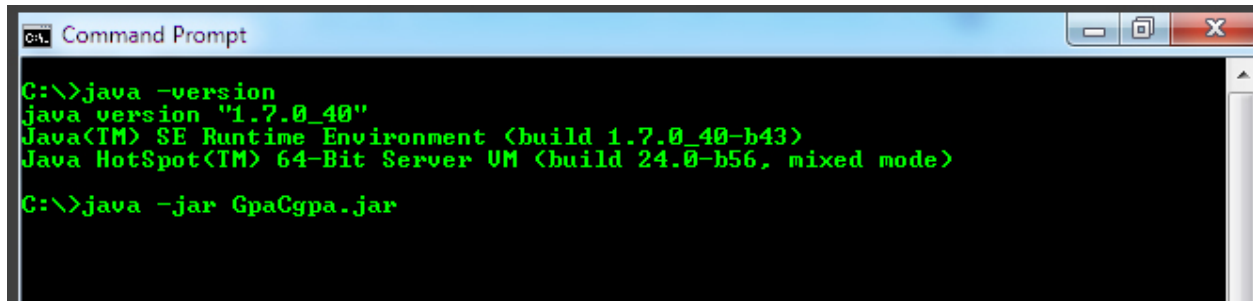
2.2.3. Screen of the images

Figure 1.5: [Figure 2.1] Java version and command to run the program

2.2. Landing Interface

2.2.1. Description

The Landing Interface is displays the welcoming information of the GPA and CGPA calculation. There are two options is the interface:

1. Calculator:To calculate the GPA or CGPA

2. Exit:To end the Program fragment

2.2.2. How to use the landing interface

Step 1: To Start the Calculation: Click on the Calculator button to start calculation the Grade Point Average (GPA) or Cumulative Grade Point Average (CGPA)

Step 2: To Exit from the Program: Hit the Exit button

2.2.3. Screen of the Landing Interface
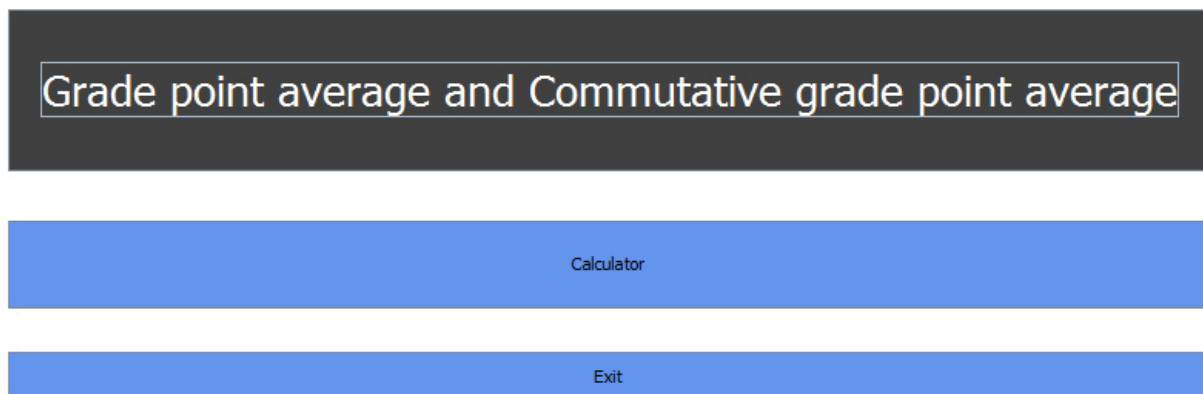
Figure 1.6: [Figure 2.2] Welcoming interface of GPA CGPA calculator

2.3. Choice Interface

2.3.1. Description

The Choice interface offers the end-user to choose the following options:

1. To calculate Cumulative Grade Point Average (CGPA)

2. To calculate Grade Point Average(GPA)

3. To back to the landing interface

4. To exit from the program

2.3.2. How to use the Choice Menu

Step 1: To Calculate CGPA- Click the CGPA button

Step 2: To Calculate GPA- Click the GPA button

Step 3: To back to the landing interface- Click the QUIT button

Step 4: To terminate the program- Click the EXIT FROM THE PROGRAM button

2.3.3. Screen of the Choice Interface

End user Choice menu of GPA CGPA calculator
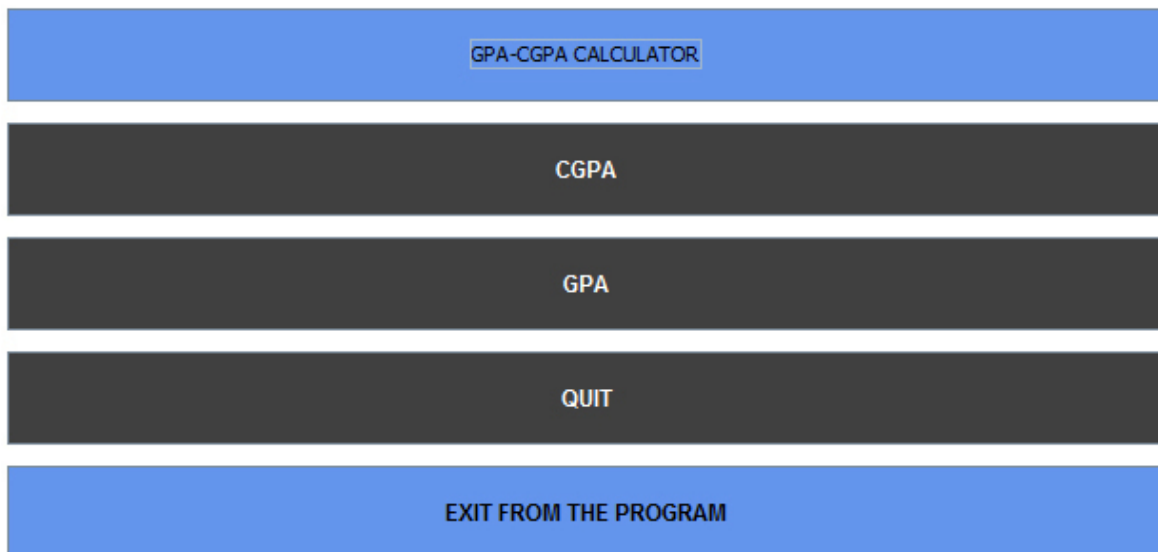
Figure 1.7: [Figure 2.3] End user Choice menu of GPA CGPA calculator

2.4. GPA

2.4.1. Description

Grade Point Average(GPA) is the calculation which is used at the end of a semester[17]. The GPA is the key to calculate the student performance which is evaluated by the teacher or authorized person. There are two input areas where the end-user or the student requires to enter the data:

1. Credit Hours[18]

2. Grade Achieved

2.4.2. How to use the GPA

Step 1: Enter the data in the Credit Hours and the Grade Achieved

Step 2: Click the CALCULATE GPA button to calculate and to view the GPA, total credits, and performance status [Figure 2.5].

Step 3: Click the Reset Data button to empty the Credit Hours and the Grade Achieved to clear the data

Step 4: Click the Back to main button to return to the main interface [Figure 2.3]

..warning:

```
Do not leave the Credit Hours and the Grade Achieved empty; Please enter ZERO (0) in the Credit Hours
```

2.4.3. Screen of the GPA Interface

Grade Point Average (CGPA) calculation interface

Figure 1.8: [Figure 2.4] Grade Point Average (CGPA) calculation interface

Grade Point Average calculation with sample input

2.5. CGPA

2.5.1. Description

The Cumulative Grade Point Average (CGPA) is the overall GPA of the entire academic year[19] at the university. The CGPA is considered as the final performance report for a student. There are four input areas where the end-user or the student requires to enter the data:

Figure 1.9: [Figure 2.5] Grade Point Average calculation with sample input

1. Previous total credits completed

2. Previous CGPA, not GPA

3. Total credits taken in this semester

4. GPA achieved (Current Semester)

2.5.2. How to use the CGPA

Step 1: Enter the data [Figure 2.6]

Step 2: Hit the find CGPA button to calculate and to view the CGPA, total credits, and performance status [Figure 2.7]

Step 3: Click the Reset Data button to empty the fields

Step 4: Click the Back to main button to return to the main interface

2.5.3. Screen of the CGPA Interface

Cumulative Grade Point Average (CGPA) calculation interface
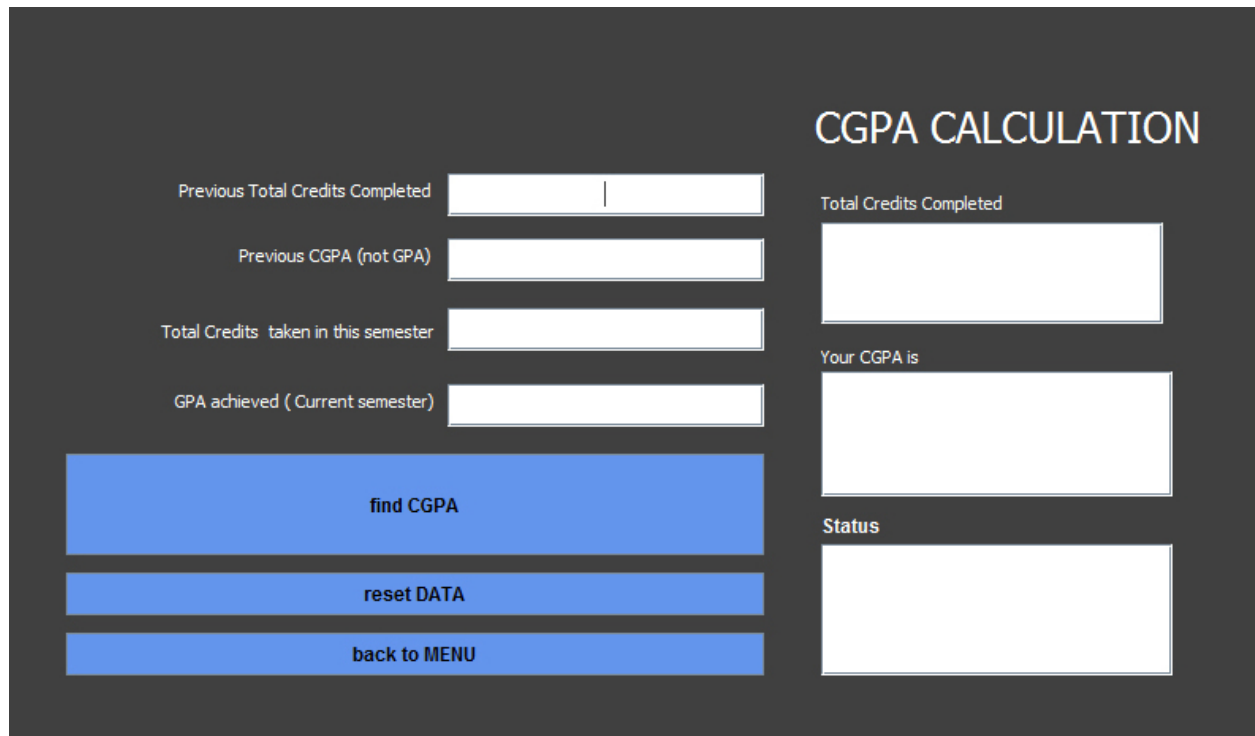
Cumulative Grade Point Average calculation with sample input

2.6. Debug Information

Software Bugs[20] are everywhere. Please send the debug information to us.

---
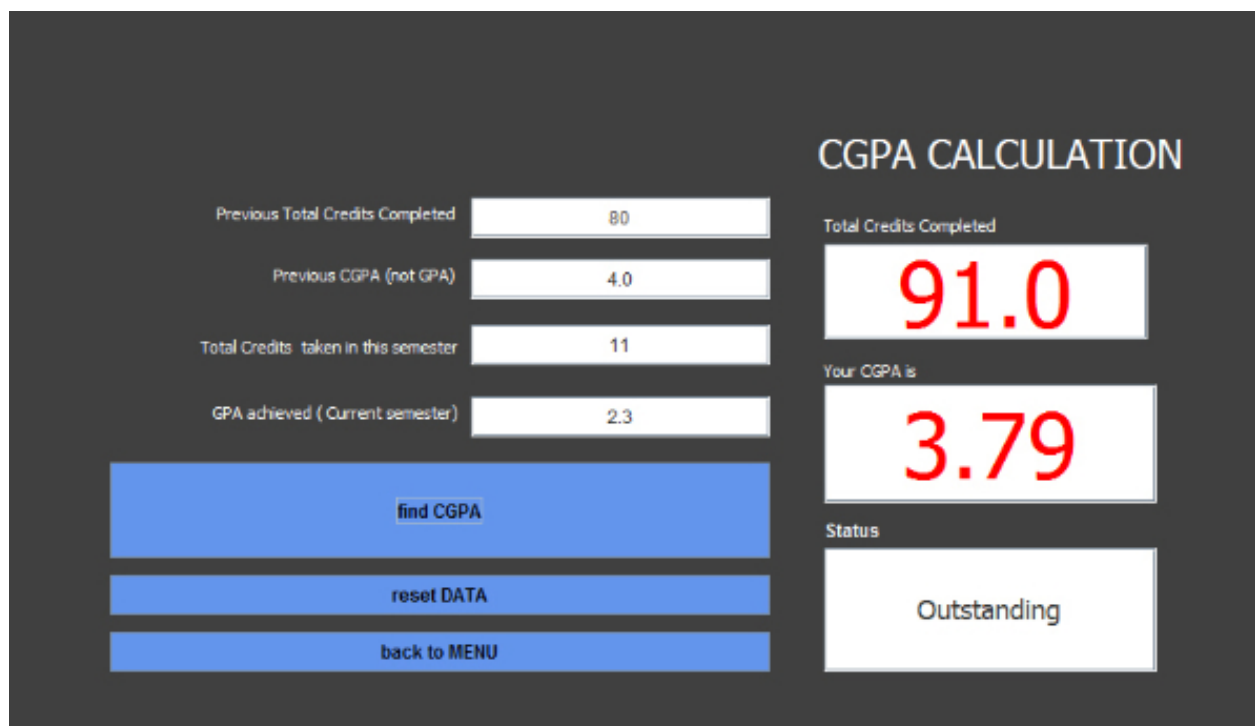
[16] A Computer program, or just a program, is a sequence of instructions, written to perform a specified task with a computer.

[17] A semester is an academic term. A semester system divides the academic year into two terms, which are usually 14–20 weeks each.

Figure 1.10: [Figure 2.6] Cumulative Grade Point Average (CGPA) calculation interface

Figure 1.11: [Figure 2.7] Cumulative Grade Point Average calculation with sample input

[18] A course credit (often credit hour, or just credit or unit) is a unit that gives weighting to the value, level or time requirements of an academic course taken at a school or other educational institution

[19] Academic year - the period of time each year when the school is open and people are studying, http://www.thefreedictionary.com/academic+year

[20] A software bug is an error, flaw, failure, or fault in a computer program or system that produces an incorrect or unexpected result, or causes it to behave in unintended ways. Most bugs arise from mistakes and errors made by people in either a program's source code or its design, or in frameworks and operating systems used by such programs, and a few are caused by compilers producing incorrect code. A program that contains a large number of bugs, and/or bugs that seriously interfere with its functionality, is said to be buggy. Reports detailing bugs in a program are commonly known as bug reports, defect reports, fault reports, problem reports, trouble reports, change requests, and so forth

Legal Notice

Indices and tables

- *genindex*
- *modindex*
- *search*