

## Abstract

The User Documentation serves the purpose to guide the user's of GPA 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.

### Session Grade Point Average:

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

### 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.

GPA Calculation Method:

$$GPA = \frac{\sum (CourseCredits \times GradePoint)}{\sum CreditsAttempted}$$

### Aim of the GPA Calculator:

The GPA 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.

### Create GPA Calculator in Java Application program:

The purpose of this instruction set is how to calculate your GPA during the semester. Calculating your GPA (Grade Point Average) is easy and essential. Knowing your GPA is important in

evaluating your improvement and determining your academic standing for any given semester. The first thing that your future employer will look at in resume is your GPA because your grades can tell a lot about you as a person. Therefore it's important to know how to calculate your GPA

## Follow the steps below to calculate your GPA in Java :

**Step 1:** Install Java Developers Kit - download: JDK 12

(<http://www.oracle.com/technetwork/java/javase/downloads/index.html>)

**Step 2:** Before writing your codes you have to start your Java with “**import java.util.Scanner;**”. This tool allows users to input their data in. Then you need to create a class method as public class *the name of your program*, along with main method like **public static void main (String args[ ])** and save it.

Note for each method you must use open and close bracket. The brackets tell the computer that the code belongs to the method.

**Step 3:** Declare and initialize your variables. In this step you need to know what type of data you should use. You should use **string** for grade to declare your variable because users need to enter grade in letter such as A, B+, C-, etc. For declaring credit for each unit, total points for each class, total credits that you earn, and GPA you should use **double** because it might be decimals.

**Step 4:** Ask user to input data. Note the classes you want to include to figure out a specific GPA, e.g., a GPA for your minor or major.

- **System.in** stores users' information (input).

**Step 5:** Assign points to each grade for the included classes.

- For each class, multiply the grade points by the number of units..

**Step 6:** Create a formula to calculate your GPA.

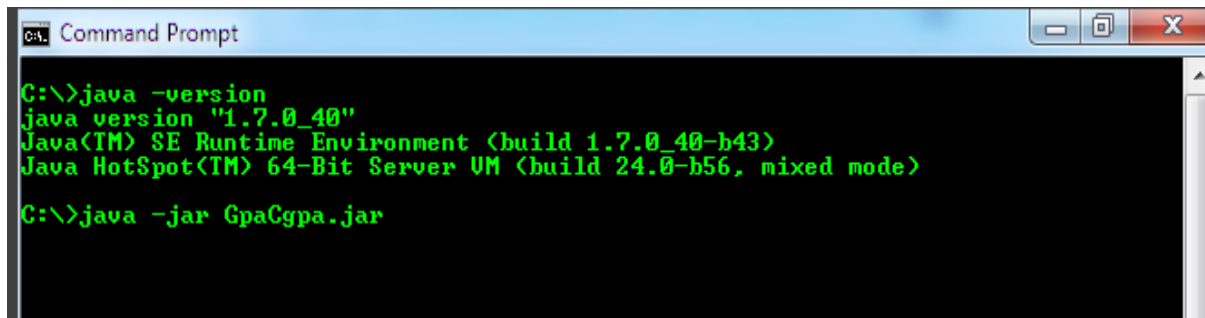
- Add the total grade points you identified in Step above.
- Divide the total number of grade points by the total number of units (credit).
- The result is your GPA.

**Step 7:** print out the GPA and round it by two decimals.

- Use **System.out.printf("Your GPA is: %.2f\n", + gpa);**
- Printf allows user to format their output.

**Step 8:** close your statement and program by using close brackets “}”.

**Step 9:** Compile and run the program in command prompt.



```
C:\>java -version
java version "1.7.0_40"
Java(TM) SE Runtime Environment (build 1.7.0_40-b43)
Java HotSpot(TM) 64-Bit Server VM (build 24.0-b56, mixed mode)

C:\>java -jar GpaCgpa.jar
```

**Step 10:** test and double check your result and make sure it's correct.

**This is code algorithm for GPA Calculator:**

```
import java.util.*;

class GPA
{ public static void main(String args[])
{ double Cigpa1,Cigpa2,Cigpa3,Cigpa4,Cigpa5,Cigpa6;

Scanner in=new Scanner(System.in);

System.out.println("enter the grade point for english:");
double E=in.nextInt();
Cigpa1=E*4;

System.out.println("enter the grade point for maths:");
double M=in.nextInt();
Cigpa2=M*4;

System.out.println("enter the grade point for physics:");
double P=in.nextInt();
Cigpa3=P*3;

System.out.println("enter the grade point for engineering graphics:");
double EG=in.nextInt();
Cigpa4=EG*4;

System.out.println("enter the grade point for chemistry:");
```

```
double C=in.nextInt();

Cigpa5=C*3;

System.out.println("enter the grade point for python: ");

double PSPP=in.nextInt();

Cigpa6=PSPP*3;

double TotalCigpa=Cigpa1+Cigpa2+Cigpa3+Cigpa4+Cigpa5+Cigpa6;

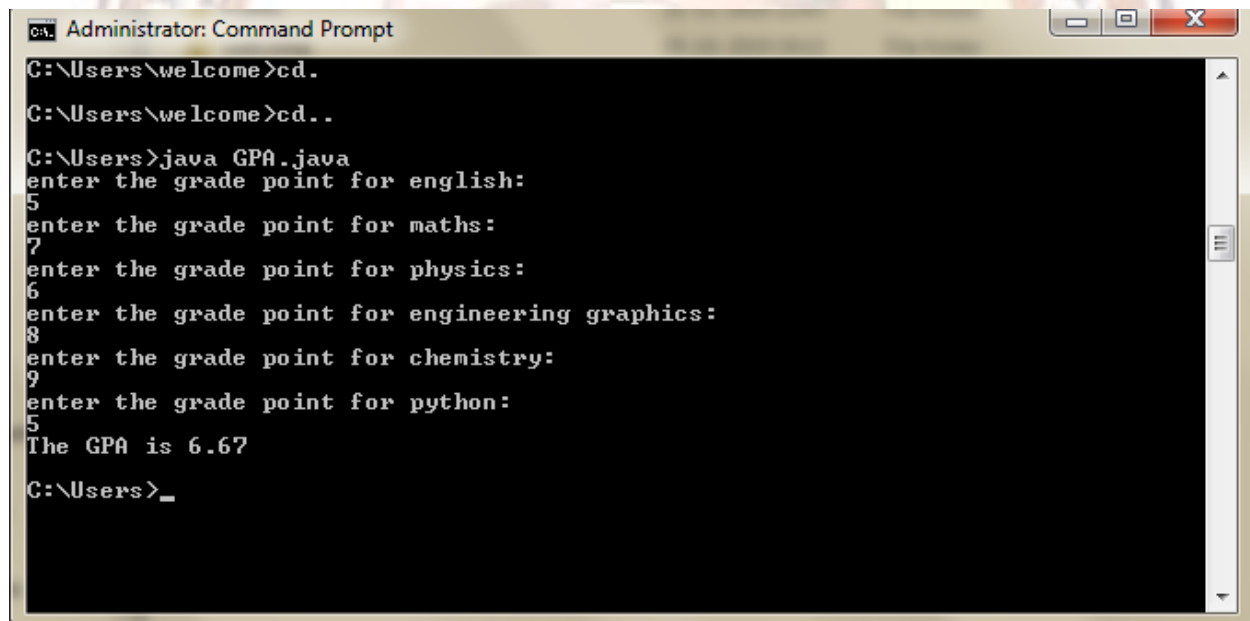
double GPA=TotalCigpa/21;

System.out.println(String.format ("The GPA is %,.2f",+GPA));

}

}
```

OUTPUT:



```
Administrator: Command Prompt
C:\Users\welcome>cd.
C:\Users\welcome>cd..
C:\Users>java GPA.java
enter the grade point for english:
5
enter the grade point for maths:
7
enter the grade point for physics:
6
enter the grade point for engineering graphics:
8
enter the grade point for chemistry:
9
enter the grade point for python:
5
The GPA is 6.67
C:\Users>_
```

## Scope for GPA calculator

- to it. This schedule applies to all Students and is also used for consideration of This schedule must be read in conjunction with the Assessment Procedure and is subordinate Medals and Awards With Distinction and should be read in conjunction with the Award Eligibility and Graduation Policy.
- This policy applies to all AIB Higher Education courses where a GPA is assigned.

### Policy scope and application:

- USC and its decision-making and advisory bodies, and This policy applies to all staff of agents and partners of the University.
- This policy applies to all coursework programs offered by the University.

### Grade parameters:

- The percentages below constitute standard final grade parameters.

GRADE	STANDARD FINAL MARK PARAMETERS
High Distinction	85%–100%
Distinction	75%–84%
Credit	65%–74%
Pass	50%–64%
Fail	0%–49%

- The University assigns grade points to letter grades according to the table above.  
Your Academic Standing is determined by a grade point average (GPA), which is calculated by multiplying the course credit by the grade points, and dividing the sum by the total course GPA credits. The result is not rounded up to the nearest decimal point.
- GPA credits are the credits of courses with grades that are assigned grade points.

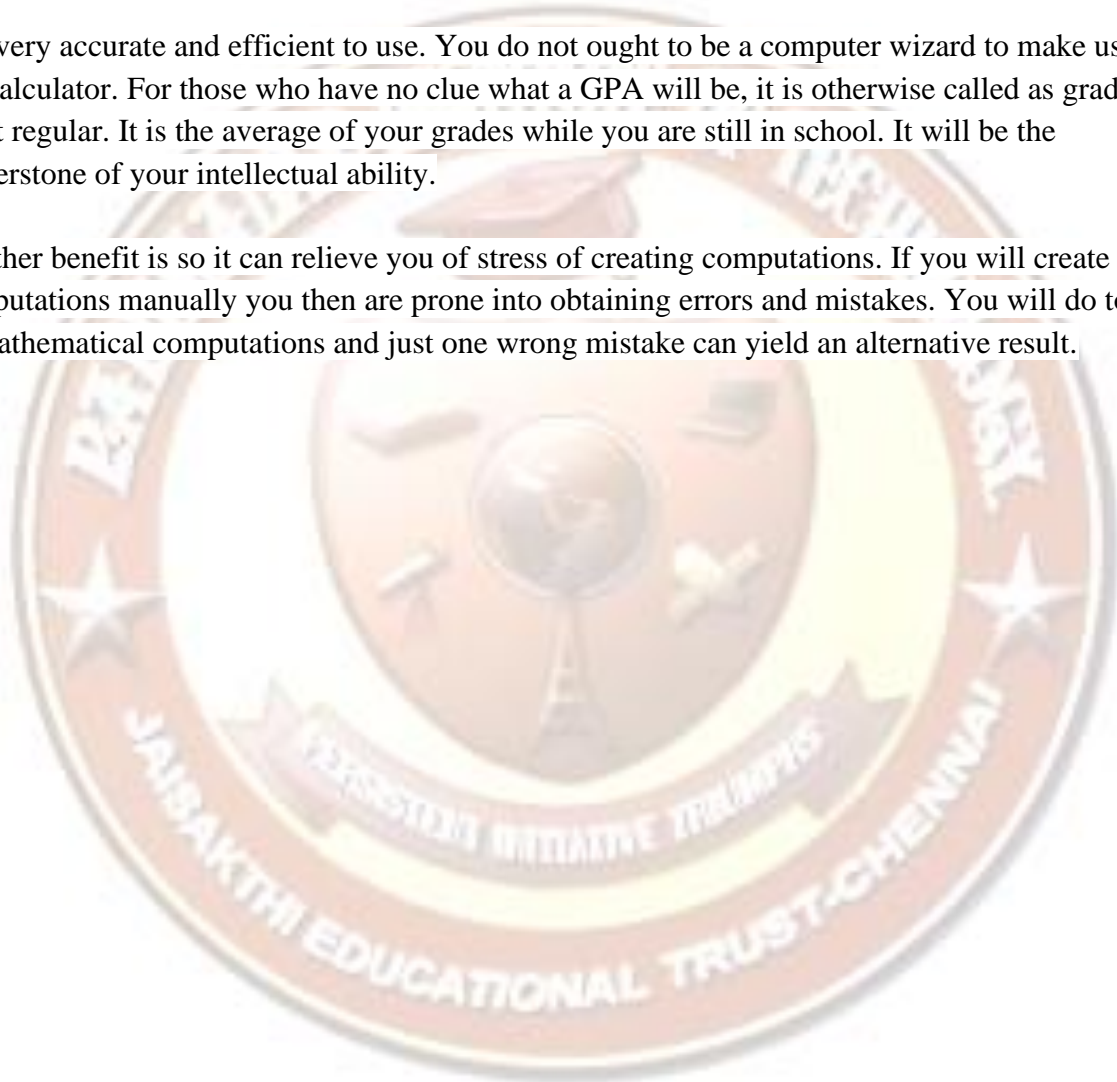


## Benefits and advantages

Grade point average calculator or else known as the GPA calculator is necessary by people most in particular by the students so that you can compute for their rank point average. It is often employed by the students when they may be applying to universities and colleges. It is a widespread tool that is incredibly effective in calculating the normal grade point of a person.

It is very accurate and efficient to use. You do not ought to be a computer wizard to make use of the calculator. For those who have no clue what a GPA will be, it is otherwise called as grade point regular. It is the average of your grades while you are still in school. It will be the cornerstone of your intellectual ability.

Another benefit is so it can relieve you of stress of creating computations. If you will create the computations manually you then are prone into obtaining errors and mistakes. You will do tons of mathematical computations and just one wrong mistake can yield an alternative result.



# Software Requirement



To start with java programming you need first to install java JDK for developers.

This kit will help you develop java application ,compile and debug.

## Overview of JDK Installation:

The type of installation depends on your requirement and the platform that you choose to install.

## Installation Requirements and Related Tasks:

To develop or run Java applications, download and install JDK.

## Installation:

The JDK can be installed on the following platforms:

- Oracle Solaris
- Microsoft Windows
- Linux
- macOS

## System Requirements for Installing the JDK and the JRE on 64-Bit Windows Platform:

The JDK and the JRE have minimum processor, disk space, and memory requirements for 64-bit Windows platform.

Before installing the JDK or the JRE on your 64-bit Windows platform, you must verify that it meets the following minimum processor, disk space, and memory requirements.

## Processor Requirements:

Both the JDK and JRE require at minimum a Pentium 2 266 MHz processor.

## Disk Space Requirements:

For JDK 10, you are given the option of installing the following features:

- Development Tools
- Source Code
- Public Java Runtime Environment
- When you install 64-bit JDK, then 64-bit public JRE also gets installed. The following table provides the disk requirements for the installed features:

JDK	Installed Image
Development Tools: 64-bit platform	500 MB
Source Code	54.2 MB
JRE	Installed Image
Public Java Runtime Environment	200 MB
Java Update	2 MB

## Memory Requirements:

On Windows 64-bit operating systems, the Java runtime requires a minimum of 128 MB of memory.