

WEB TECHNOLOGIES

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CGPA CALCULATOR

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OVERVIEW

- This project was part of the **IT5501 Web Technologies** in V semester which deals with **Java Web Development** using **Servlet Technology**.
- **MySQL Database** is used and connected with **Java DataBase Connectivity(JDBC) API**
- The course instructor is **Dr. Eliza Femi Sherley**.

REQUIREMENTS

- This project can be handy and aims to provide students to calculate the **Grade Point Average(GPA)** and **Cumulative Grade Point Average (CGPA)**.
- The students shall create an account and can save their **GPA / CGPA** if they wish
- They could also view all of their saved **GPAs and CGPAs**.

FUNCTIONAL REQUIREMENTS

- The project offers services such as
 - Calculating the GPAs and CGPAs
 - Save their respective GPAs and CGPAs
 - Display the client's saved GPAs and CGPAs
- The client must create account to avail all these services

NON-FUNCTIONAL REQUIREMENTS

- This application aims to provide complete privacy such that no non-authorized user can view or have an access to other user's credentials as each user is secured with passwords stored in **MySQL DataBase**.
- The application provide services with a ease in use **UI(User Interface)**

DOMAIN REQUIREMENTS

- The Grade Point Average is calculated by the formula

$$\rightarrow \text{GPA} = \sum_{i=0}^n (\text{Credits}_i * \text{Point Scored}_i) / \text{sum_of_credits}$$

- Where Credits_i and Point Scored_i indicates the credits and points acquired per subject.

- The Cumulative Grade Point Average is calculated by the formula

$$\rightarrow \text{CGPA} = \sum_{i=0}^n (\text{sum_total_credits}_i * \text{Point Scored}_i) / \text{sum_of_all_credits}$$

- Where sum_total_credits_i, Point Scored_i indicates the credits and points acquired per semester.

FRONTEND STACK :



- The markup language used to render content and design is provided by **Hyper Text MarkUp Language(HTML)**. The html tags are saved with the **.jsp(Java Server Pages)** extension which is used to create dynamic web pages which can receive the data from the backend depending upon the state of the client.
- **CSS (Cascading Style Sheets)** is used for custom designing of the html tags
- **Bootstrap 5**, which is the most popular HTML, CSS, and JavaScript framework for creating responsive, mobile-first websites is used to make the html css simpler to make the web page responsive.

- **JavaScript ES6** , is used for updating , creating , manipulating the DOM elements whenever a specific event is triggered
- **jQuery** , a JavaScript framework can help to manipulate the DOM elements and also helps to make **AJAX** calls.

BACKEND STACK:



- **JSP(Java Server Pages)**, is used to render html pages with dynamic content which is received from the backend depending upon the state of the client .
- **Servlets** are Java programs that run on the Java-enabled web server or application server. They are used to handle the request obtained from the web server, process the request, produce the response, then send a response back to the web server. They can handle all type of http methods such as **GET,POST,PATCH,PUT** and **DELETE**.
- **MySQL** , is open source relational database management system used to store data in relation using schemas and record formats. It is used to store user credentials such as username , password ,email , etc.
- **GlassFist 6.2.3** server is used to handle http GET and POST methods

APPLICATION PROGRAMMING INTERFACE:



- **Java DataBase Connectivity(JDBC)**, is a Java API to connect and execute the query with the database.
- It is used to sign up , authenticate and save GPAs and CGPAs of the users.
- **JavaMail** is an mail API used to send mail to users to reset passwords.

ALGORITHMIC PARADIGM:



- The entire project is built with the help of Object Oriented Programming Paradigm with interfaces , inheritance , polymorphism and abstraction.

ENVIRONMENTAL SET UP:

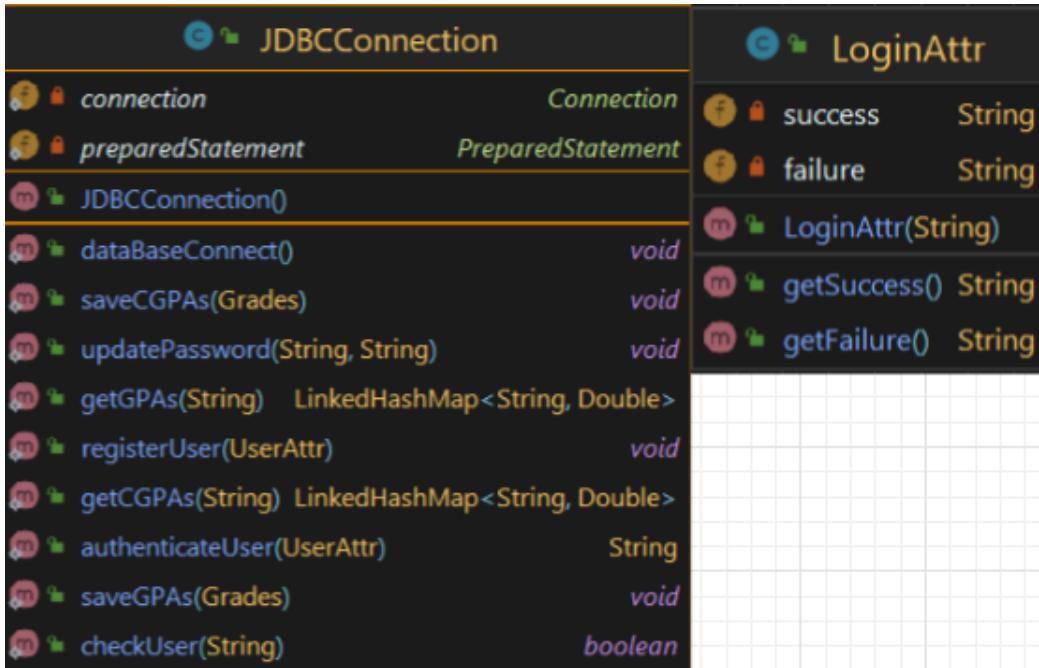


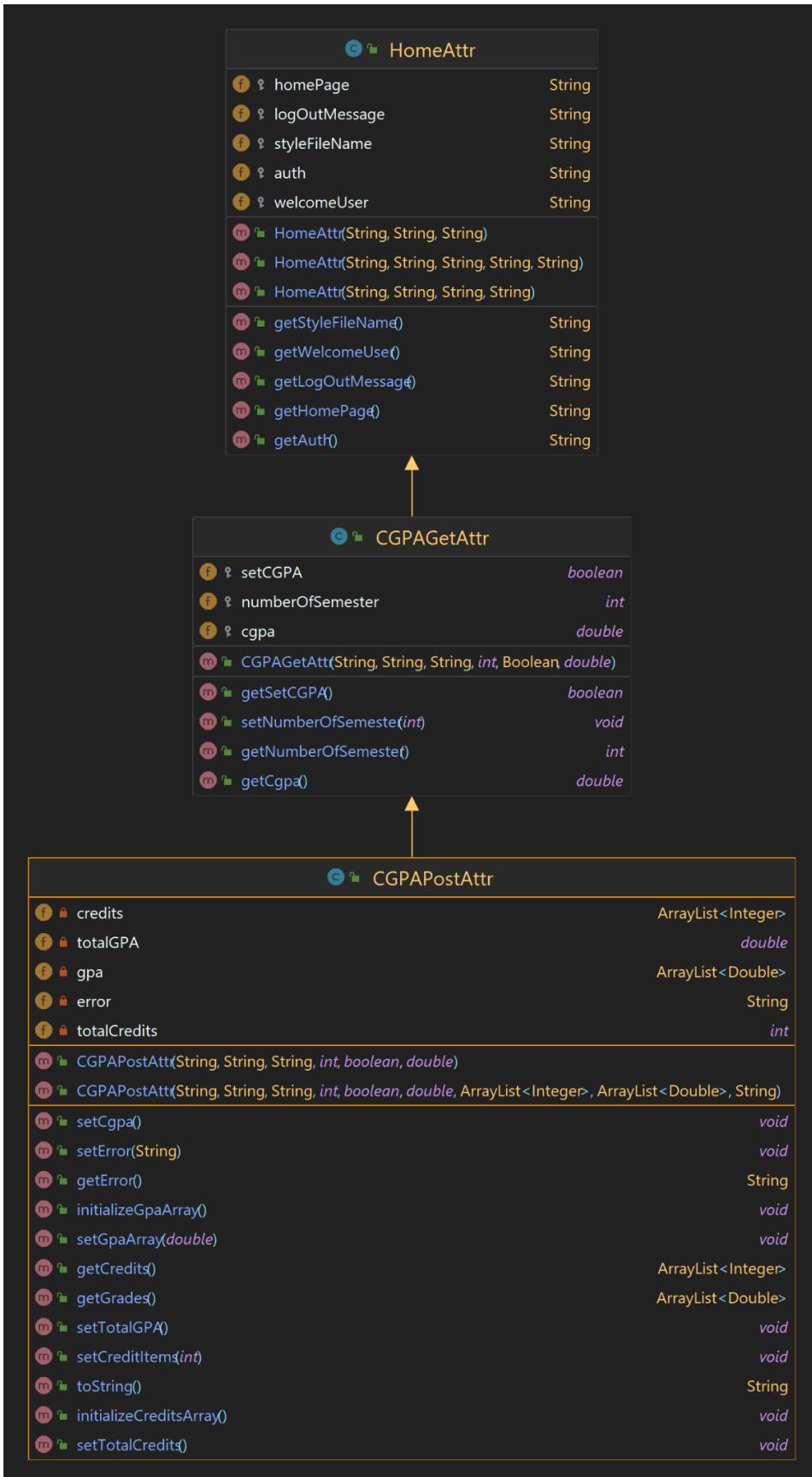
- **IntelliJ IDEA IDE(Enterprise Edition)** is used for both backend and front end stack implementation.
- **Oracle JDK 17**, is version of Java Development Kit used to build the project
- **PopSQL** , an Graphical User Interface tool is used to run SQL Commands in MySQL server

SOFTWARE DESIGN

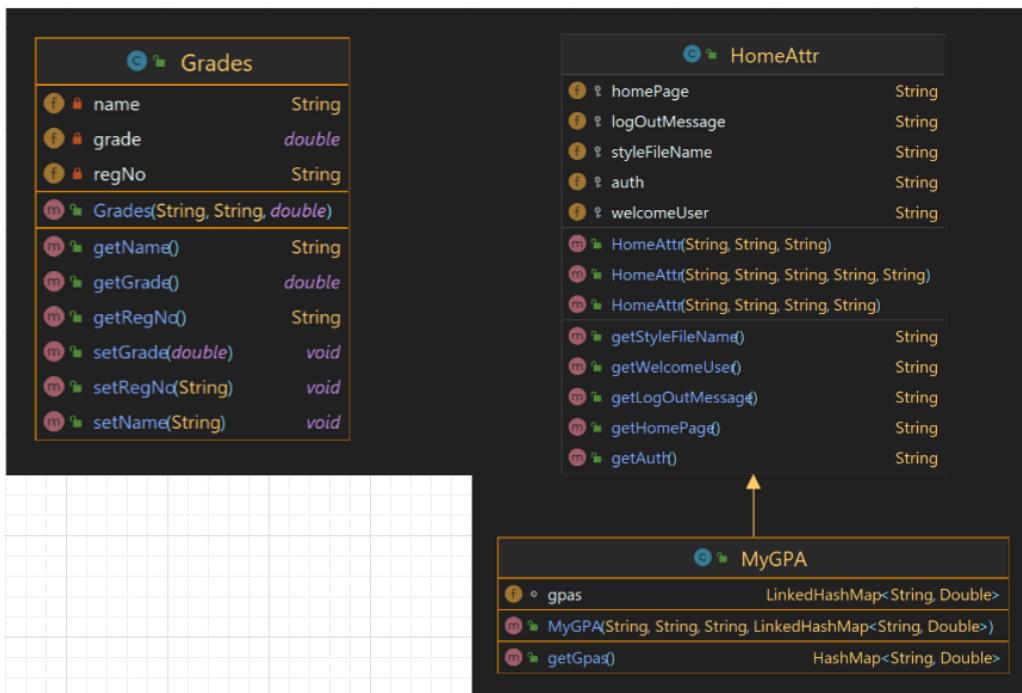
UML CLASS DIAGRAMS

→ Alternatively the diagram is available [here](#)

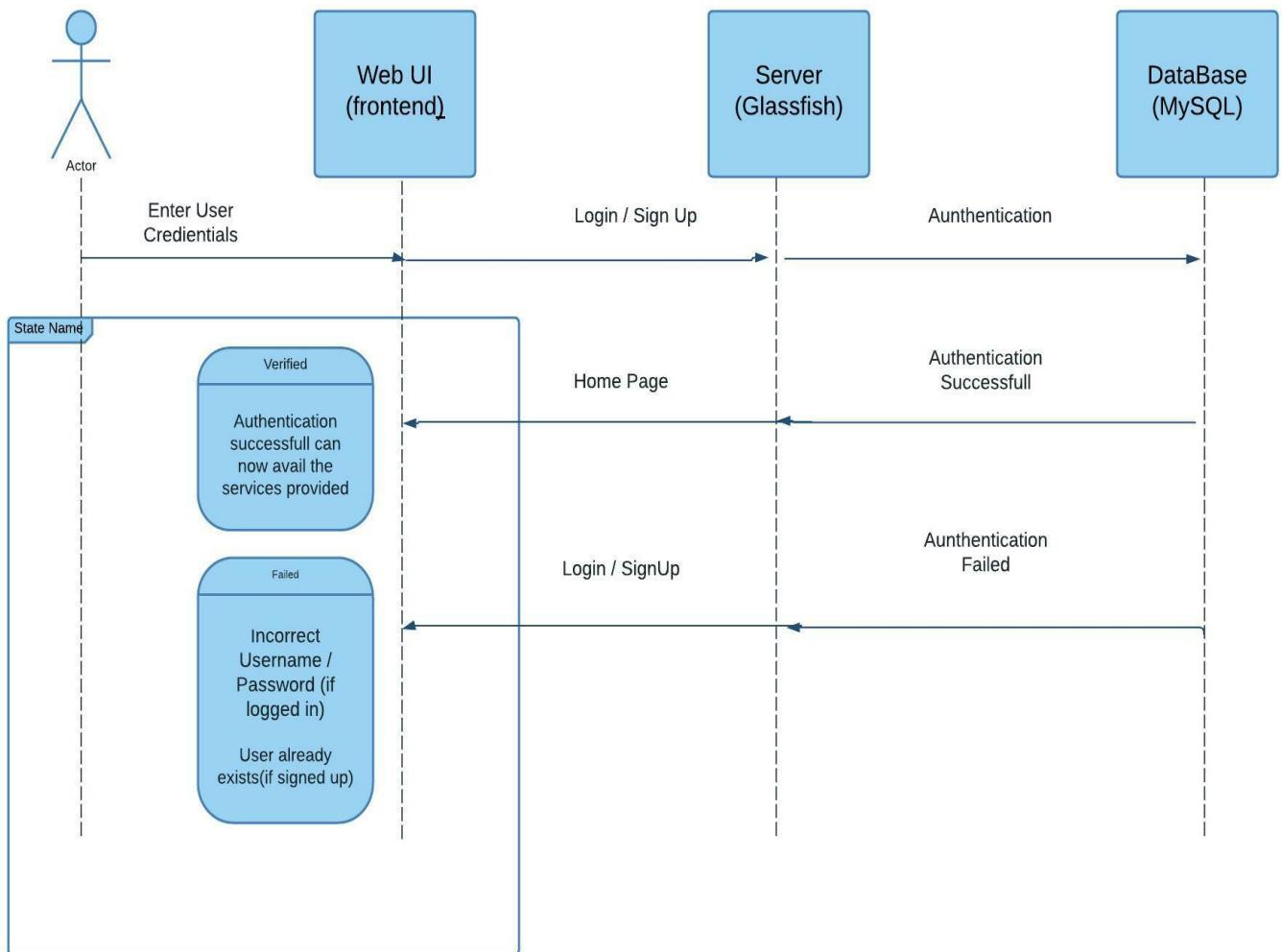






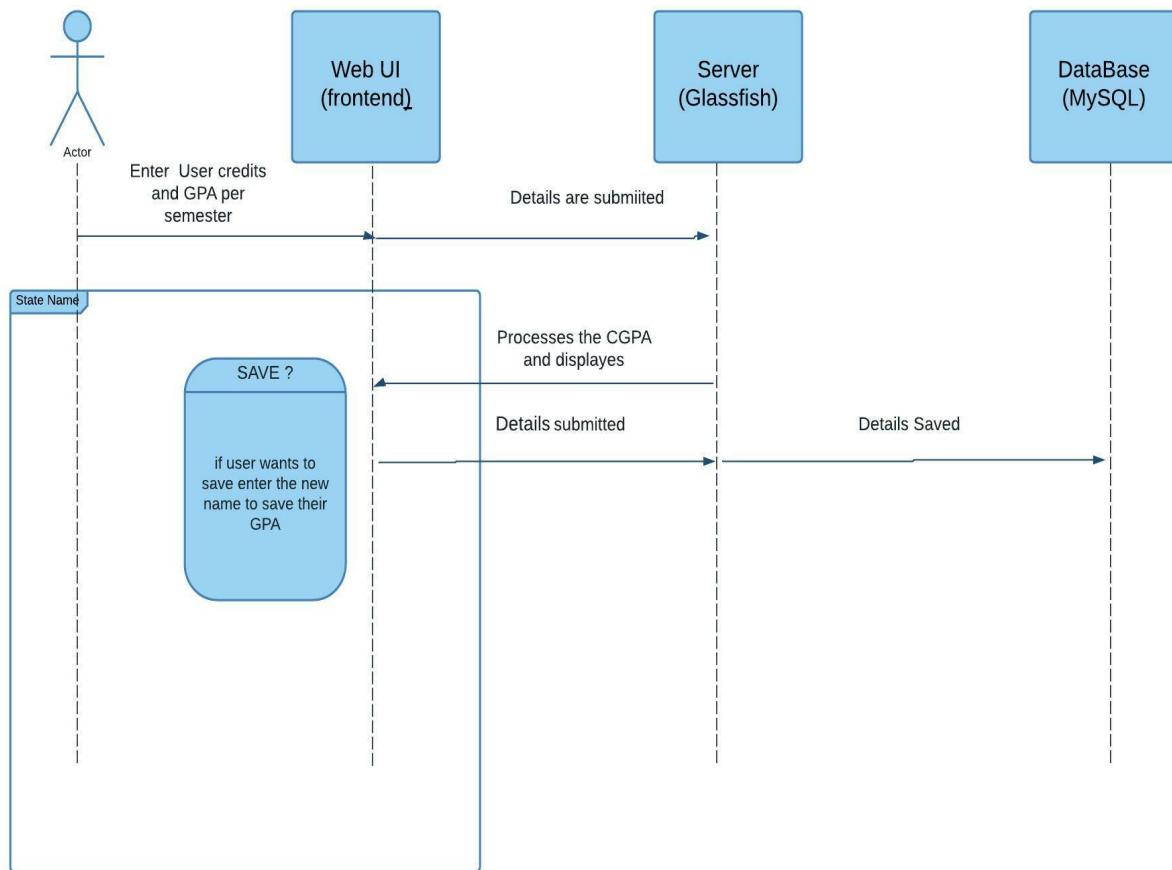


UML SEQUENCE DIAGRAMS (for authentication)



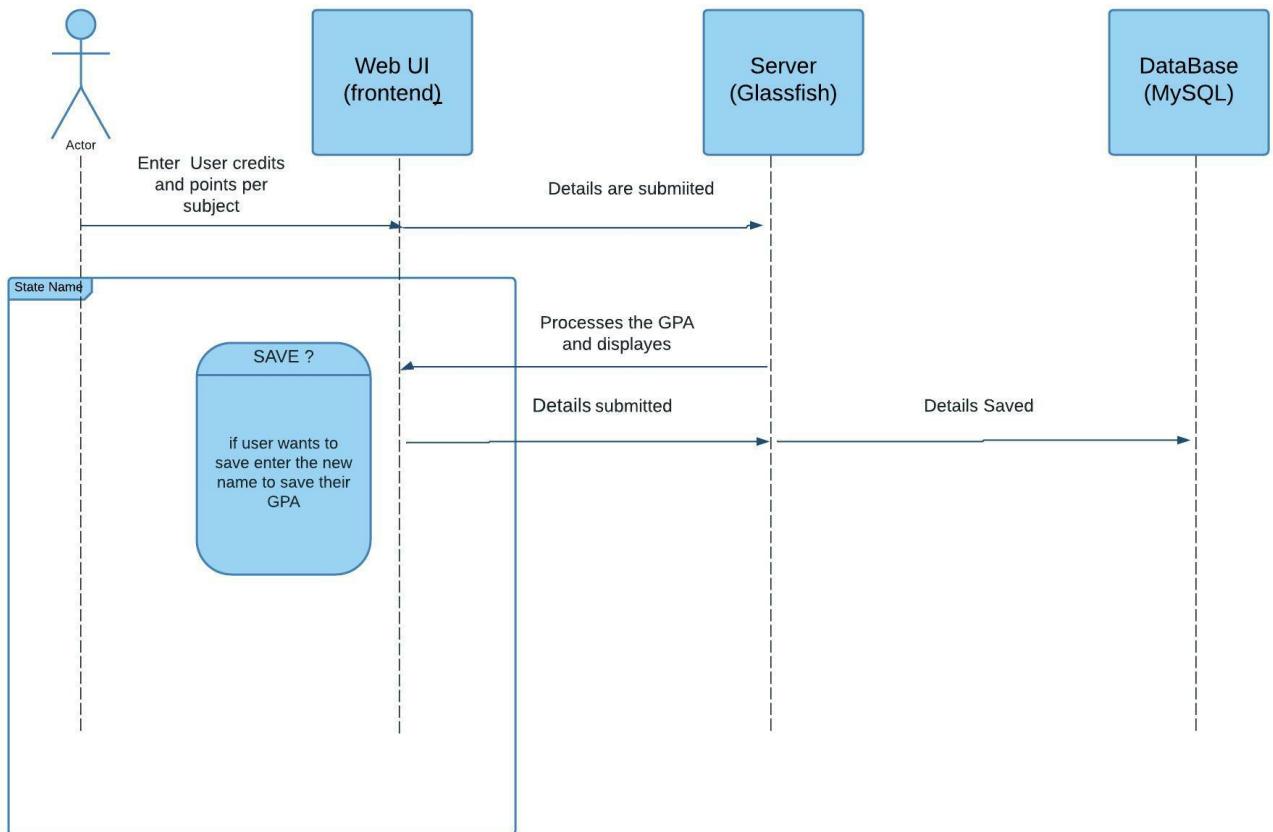
→ Alternatively the diagram is available [here](#)

UML SEQUENCE DIAGRAMS (for saving CGPA)



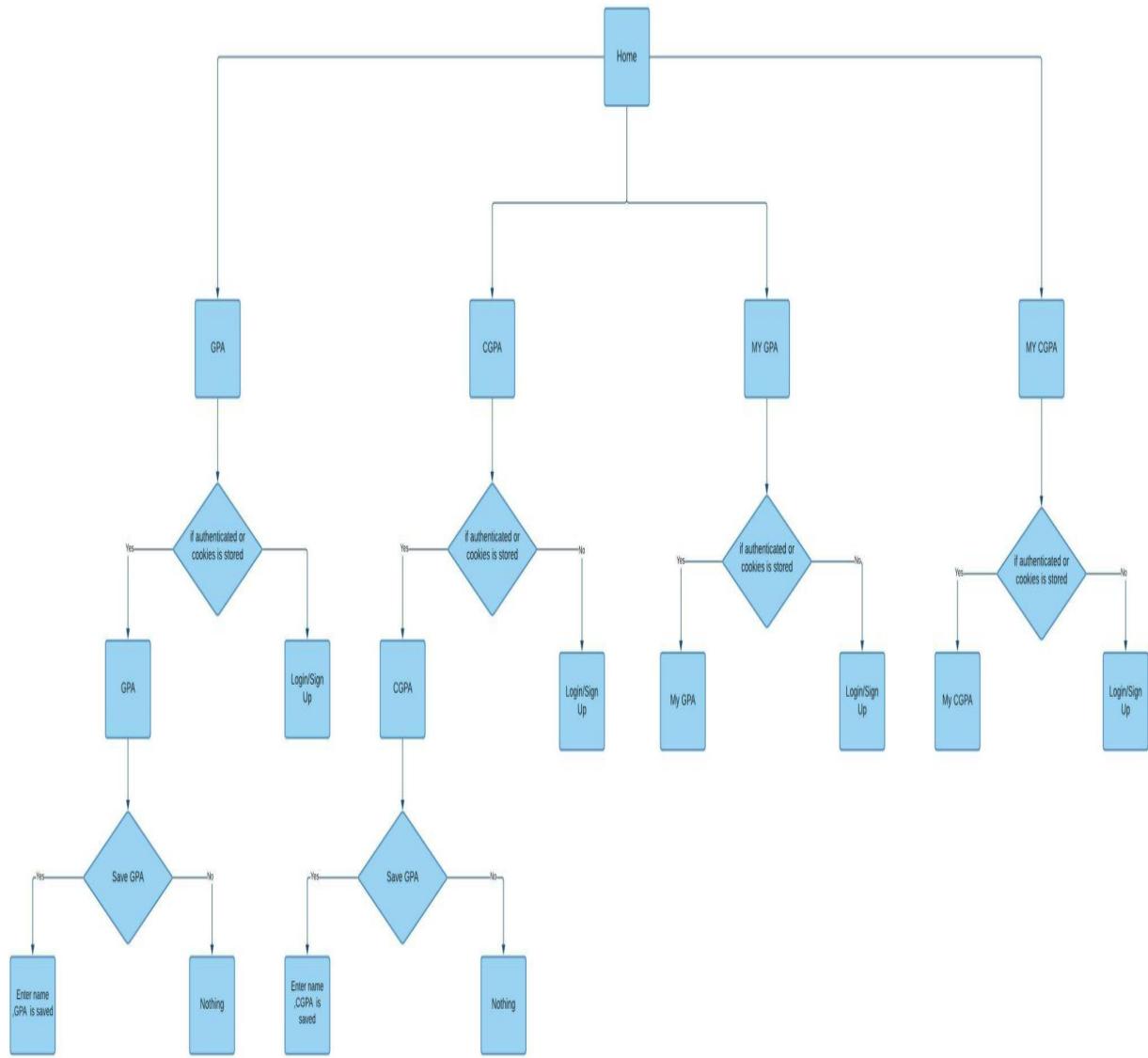
→ Alternatively the diagram is available [here](#)

UML SEQUENCE DIAGRAMS (for saving GPA)



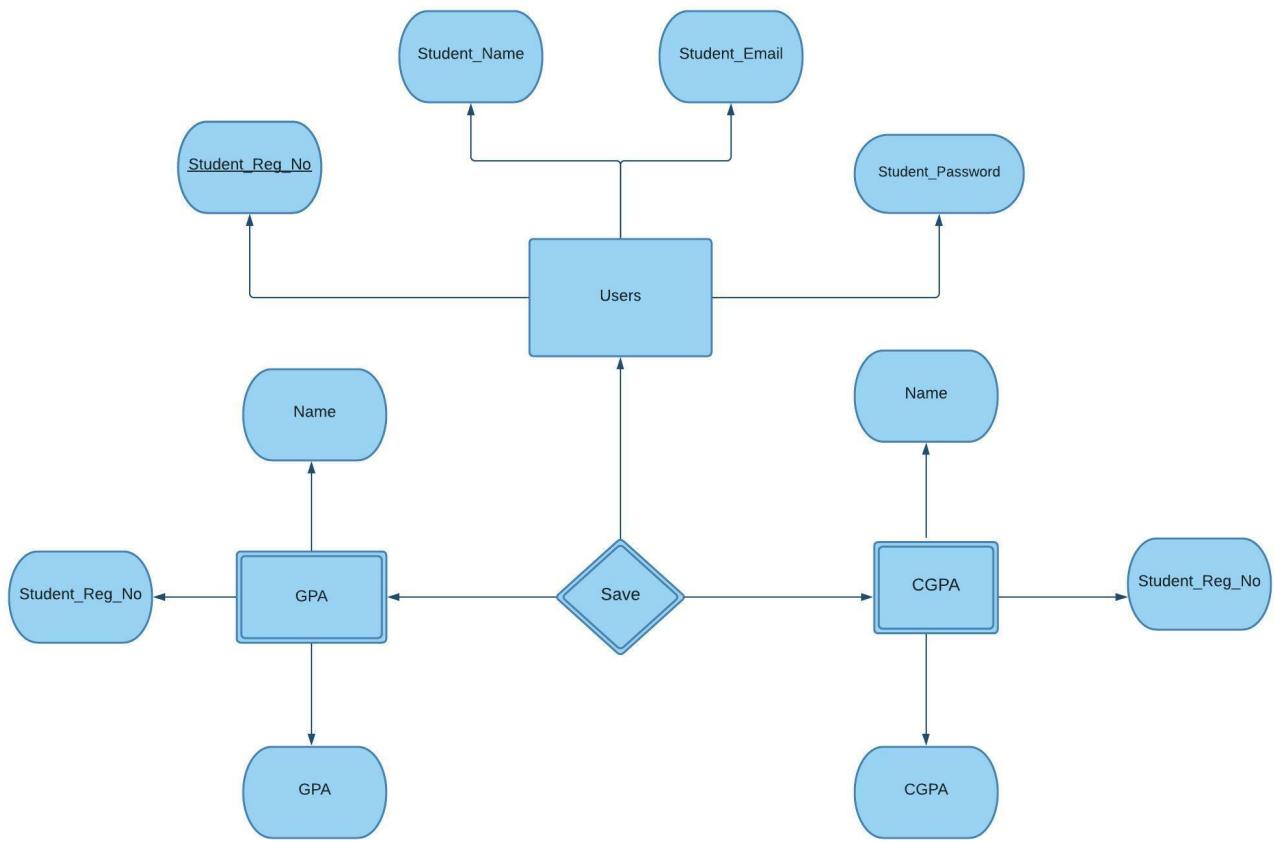
→ Alternatively the diagram is available [here](#)

ARCHITECTURE FLOW DIAGRAM



→ Alternatively the diagram is available [here](#)

ENTITY RELATIONSHIP DIAGRAM (DATABASE DESIGN)



→ Alternatively the diagram is available [here](#)

CODING:

- The following are code screenshots ,alternatively the code is available on github [here](#).
- The jsp pages are available [here](#)
- The css , js are available [here](#)
- The java servlets are available [here](#)

Java Servlets

FILENAME : **HomeServlet.java**

HTTP METHOD : GET

URL : “/”

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```

@WebServlet(name = "HomeServlet", value = "/")
public class HomeServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        if(MyCookies.checkCookie(request)){
            String username = MySession.retrieveSession(request);
            request.setAttribute("attr", new HomeAttr(HomePage: "body-home", styleFileName: "HomeStyle.css", auth: "LogOut", username));
            request.getRequestDispatcher("pages/home.jsp").forward(request, response);
        }else {
            request.setAttribute("attr", new HomeAttr(HomePage: "body-home", styleFileName: "HomeStyle.css", auth: "LogIn"));
            request.getRequestDispatcher("pages/home.jsp").forward(request, response);
        }
    }
}

```

- The get method retrieves the home.jsp page and sends different data depending upon the state of the user .
- If the user is authenticated the welcome message with the user profile is displayed.
- Otherwise the page with the login/sign up option is provided.

FILENAME : LoginServlet.java

HTTP METHOD : GET

URL : "/login"

```

package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;

```

```
@WebServlet(name = "LoginServlet", value = "/login")
public class LoginServlet extends HttpServlet {

    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        request.getRequestDispatcher( s: "pages/login.jsp").forward(request,response);
    }
}
```

- The get method retrieves the login.jsp page which resides inside the pages folder

FILENAME : **LoginServlet.java**

HTTP METHOD : **POST**

URL : **"/login"**

```
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    UserAttr user = new UserAttr();
    user.setRegNo(request.getParameter( s: "username"));
    user.setPassword(request.getParameter( s: "password"));
    try {
        Class.forName("com.mysql.jdbc.Driver");
        JDBCConnection.dataBaseConnect();
        JDBCConnection.authenticateUser(user);
        MySession.createSession(request,user);
        MyCookies.createCookie(response,user);
        String username = MySession.retrieveSession(request);
        if(username == null)Check.check( msg: "not working");
        else Check.check( msg: "username");
        request.setAttribute( s: "attr",new HomeAttr( homePage:"body-home", styleFileName:"HomeStyle.css", auth: "LogOut",username));
        request.getRequestDispatcher( s: "pages/home.jsp").forward(request,response);
    } catch (Exception e) {
        try {
            Check.check(e.toString());
        } catch (Exception ex) {
            ex.printStackTrace();
        }
        request.setAttribute( s: "attr",new LoginAttr( failure: "Incorrect Username/Password Try Again !!!"));
        request.getRequestDispatcher( s: "pages/login.jsp").forward(request,response);
    }
}
```

- The user attribute is the class that contains the user field and methods

- It stores the user's username and password using the request attribute when the form is validated and submitted using JQuery.
- The MySQL Database is connected using JDBC API via databaseConnect() method inside the JDBCConnected class
- The user is authenticated.If the username and password is correct then the user is successfully redirected to the home page with a welcome message else the JDBC throws an SQLException which is handled and error message is shown.
- When the user is logged in, sessions and cookies are created to track and manage the user activities.

FILENAME : RegisterServlet.java

HTTP METHOD : POST

URL : "/register"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```

@WebServlet(name = "RegisterServlet", value = "/register")
public class RegisterServlet extends HttpServlet {
    @Override
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        UserAttr user = new UserAttr();
        user.setName(request.getParameter("name"));
        user.setEmail(request.getParameter("email"));
        user.setRegNo(request.getParameter("username"));
        user.setPassword(request.getParameter("password"));
        try {
            Class.forName("com.mysql.jdbc.Driver");
            JDBCConnection.dataBaseConnect();
            JDBCConnection.registerUser(user);
            MySession.createSession(request, user);
            MyCookies.createCookie(response, user);
            request.setAttribute("attr", new HomeAttr(homePage: "body-home", styleFileName: "HomeStyle.css", auth: "LogOut", user.getName()));
            request.getRequestDispatcher("pages/home.jsp").forward(request, response);
        } catch (Exception e) {
            request.setAttribute("attr", new LoginAttr(failure: "User Already Exist Try Again"));
            request.getRequestDispatcher("pages/login.jsp").forward(request, response);
        }
    }
}

```

- The first time users are requested to sign up with details like username , roll no, email and password
- These fields are validated using jQuery and the form is submitted via POST method and handled here.
- Connection to the MySQL DataBase is created and user details are registered, SQLException is thrown if the username(email) with this account is already present.On successful registration the user is redirected to the home page.

FILENAME : ForgetPasswordServlet.java

HTTP METHOD : GET

URL : "/forgotpass"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```
@WebServlet(name = "ForgetPasswordServlet", value = "/forgotpass")
public class ForgetPasswordServlet extends HttpServlet {
    public static String email;
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        request.getRequestDispatcher( s: "pages/forgetPassword.jsp").forward(request,response);
    }
}
```

- This get method is used to render forgetPassword.jsp file that resides inside the pages folder.

FILENAME : ForgetPasswordServlet.java

HTTP METHOD : POST

URL : "/forgotpass"

```
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    ForgetPasswordServlet.email = request.getParameter("email");
    try {
        Class.forName("com.mysql.jdbc.Driver");
        JDBCConnection.dataBaseConnect();
        if(JDBCConnection.checkUser(email)){
            new Thread(() -> {
                try {
                    MailApp.send(email);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            });
            response.setContentType("text/plain");
            response.setCharacterEncoding("UTF-8");
            response.getWriter().write("1");
        }
    } catch (Exception e){
        try {
            Check.check(e.toString());
        } catch (Exception ex) {
            ex.printStackTrace();
            response.setContentType("text/plain");
            response.setCharacterEncoding("UTF-8");
            response.getWriter().write("0");
        }
    }
}
```

- The email of the user is stored in the `email` static variable , a database connection is made and it first checks whether the user with that particular email is registered.
 - If registered then an email is sent by invoking a thread which has a link to a page to reset the password
 - Else , the user is prompted to register first.

FILENAME : ResetPasswordServlet.java

HTTP METHOD : GET

URL : "/reset"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```
@WebServlet(name = "ResetPasswordServlet", value = "/reset")
public class ResetPasswordServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        request.getRequestDispatcher("pages/reset.jsp").forward(request, response);
    }
}
```

→ The get method is used to render the reset.jsp page which resides in the pages folder.

FILENAME : ResetPasswordServlet.java

HTTP METHOD : POST

URL : "/reset"

```
@Override  
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {  
    String password = request.getParameter("password");  
    String userEmail = ForgetPasswordServlet.email;  
    try {  
        Class.forName("com.mysql.jdbc.Driver");  
        JDBCConnection.dataBaseConnect();  
        JDBCConnection.updatePassword(password, userEmail);  
        Check.check("Password Updated");  
    } catch (Exception e) {  
        try {  
            Check.check(e.toString());  
        } catch (Exception ex) {  
            ex.printStackTrace();  
        }  
    }  
    request.getRequestDispatcher("pages/login.jsp").forward(request, response);  
}
```

- The new password is updated in the database with existing user email and the user is redirected to the login page after successful updation.

FILENAME : GPAServlet.java

HTTP METHOD : GET

URL : "/gpa"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    if(MyCookies.checkCookie(request)){
        request.setAttribute("attr", gpaAttr);
        request.getRequestDispatcher("pages/gpa.jsp").forward(request, response);
    } else {
        request.getRequestDispatcher("pages/login.jsp").forward(request, response);
    }
}
```

- If the user is already authenticated then the user is authorized to the GPA page else the user is redirected to the login page.

FILENAME : GPAServlet.java

HTTP METHOD : POST

URL : "/gpa"

```

@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    if(request.getParameter("subjects") != null){
        gpaAttr.setNumberOfSubjects(Integer.parseInt(request.getParameter("subjects")));
        request.setAttribute("attr", new GPAPostAttr(homePage: "body-gpa", styleFileName: "GpaStyle.css", auth: "LogOut", gpaAttr.getNumberOfSubjects(), setCGPA: false, gpa: 0.0));
        request.getRequestDispatcher("pages/gpa.jsp").forward(request, response);
    } else if(request.getParameter("saveName") != null){
        Grades gpa = new Grades(MySession.retrieveSession(request),request.getParameter("saveName"), gpaAttr.getGpa());
        try {
            Class.forName("com.mysql.jdbc.Driver");
            JDBCConnection.dataBaseConnect();
            JDBCConnection.saveGPAs(gpa);
        } catch(Exception e) {
            gpaAttr.setError("Name already exists , give a different name");
            request.setAttribute("attr", gpaAttr);
            request.getRequestDispatcher("pages/gpa.jsp").forward(request, response);
        }
    } else {
        readCredits(request);
        readGrades(request);
        calculateGPA();
        try {
            Check.check(gpaAttr.toString());
        } catch (Exception e) {
            e.printStackTrace();
        }
        request.setAttribute("attr", gpaAttr);
        request.getRequestDispatcher("pages/gpa.jsp").forward(request, response);
    }
}
}

```

- In the GPA page if the user changes the number of subjects , a post request is triggered which has handled by the if condition , that displays the number of option tags respectively
- If the user clicks on the calculate button the else condition is handled which first reads the credits and points obtained per subject and calculates the GPA.

```

private GPAPostAttr gpaAttr = new GPAPostAttr( homePage: "body-gpa", styleFileName: "GpaStyle.css", auth: "LogOut", numberOfSubjects: 0, setCGPA: false, gpa: 0.0);
private void readCredits(HttpServletRequest request){
    gpaAttr.initializeCreditArray();
    for(int i = 0 ; i < gpaAttr.getNumberOfSubjects() ; i++){
        gpaAttr.setCreditsItems(Integer.parseInt(request.getParameter( s: "subject-" + i + "-credits")));
    }
}

private void readGrades(HttpServletRequest request){
    gpaAttr.initializeGradeArray();
    for(int i = 0 ; i < gpaAttr.getNumberOfSubjects() ; i++){
        gpaAttr.setGradeItems(request.getParameter( s: "subject-" + i + "-grade"));
    }
}

private void calculateGPA(){
    gpaAttr.getTotalPoints();
    gpaAttr.getTotalCredits();
    gpaAttr.setGPA();
}

```

→ The GPA is calculated with the help of the total credits and GPAs

```

public class GPAPostAttr extends GPAGetAttr{

    private ArrayList<Integer>credits = null;
    private ArrayList<Integer>grades = null;
    private String error = null;
    private int totalPoints = 0;
    private int totalCredits = 0;
    public GPAPostAttr(String homePage, String styleFileName, String auth, int numberOfSubjects,
                       boolean setCGPA, double gpa){
        super(homePage,styleFileName,auth,numberOfSubjects,setCGPA,gpa);
    }
    public GPAPostAttr(String homePage, String styleFileName,
                       String auth, int numberOfSubjects,
                       boolean setCGPA, double gpa,
                       ArrayList<Integer>credits,ArrayList<Integer>grades, String error) {
        super(homePage, styleFileName, auth, numberOfSubjects, setCGPA, gpa);
        this.credits = credits;
        this.grades = grades;
        this.error = error;
    }
    public void initializeCreditArray(){ this.credits = new ArrayList<>();}

    public void setCreditsItems(int value) { this.credits.add(value); }

    public void initializeGradeArray(){this.grades = new ArrayList<>();}

```

```

public void getTotalPoints(){
    for(int i = 0 ; i < number0fSubjects ; i++){
        totalPoints += credits.get(i) * grades.get(i);
    }
}

public void getTotalCredits(){
    for(int i = 0 ; i < number0fSubjects ; i++){
        totalCredits += credits.get(i);
    }
}

public void setGPA(){
    this.setCGPA = true;
    gpa = (double)totalPoints / (double)totalCredits;
}

```

```

private int getPoints(String grade){
    switch(grade){
        case "0" :
            return 10;
        case "A+":
            return 9;
        case "A":
            return 8;
        case "B+":
            return 7;
        case "B":
            return 6;
        default:
            return -1;
    }
}

public void setGradeItems(String value) {this.grades.add(getPoints(value));}

public ArrayList<Integer> getCredits() { return credits; }

public ArrayList<Integer> getGrades() { return grades; }

```

- After the GPA is shown and when the user wishes to save the GPA with a name the else if condition is handled ,the user details are retrieved from the session created earlier and the GPA is stored successfully.If the name provided by the user to save the GPA is already present the user is prompted to provide with another name.

FILENAME : CGPAServlet.java

HTTP METHOD : GET

URL : "/cgpa"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```
@Override
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    if(MyCookies.checkCookie(request)){
        request.setAttribute("attr", new CGPAPostAttr(homePage:"body-gpa", styleFileName:"CgpaStyle.css", auth: "LogOut", numberOfSubjects: 0, setCGPA: false, cgpa: 0.0));
        request.getRequestDispatcher("pages/cgpa.jsp").forward(request, response);
    }else {
        request.getRequestDispatcher("pages/login.jsp").forward(request, response);
    }
}
```

- If the user is already authenticated(cookie is stored) then the user is authorized to the CGPA page else the user is redirected to the home page.

FILENAME : CGPAServlet.java

HTTP METHOD : POST

URL : "/cgpa"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;
import java.io.IOException;
```

```
@Override
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
    if(request.getParameter("semesters") != null){
        cgpaAttr.setNumberOfSemester(Integer.parseInt(request.getParameter("semesters")));
        try {
            Check.check(cgpaAttr.toString());
        } catch (Exception e) {
            e.printStackTrace();
        }
        request.setAttribute("attr",cgpaAttr);
        request.getRequestDispatcher("pages/cgpa.jsp").forward(request,response);
    } else if(request.getParameter("saveName") != null){
        Grades grades = new Grades(retrieveSession(request),request.getParameter("saveName"), cgpaAttr.getCgpa());
        try {
            Class.forName("com.mysql.jdbc.Driver");
            JDBCConnection.dataBaseConnect();
            JDBCConnection.saveCGPAs(grades);
        } catch(Exception e) {
            try {
                Check.check(e.toString());
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            cgpaAttr.setError("Name already exists , give a different name");
            request.setAttribute("attr",cgpaAttr);
            request.getRequestDispatcher("pages/cgpa.jsp").forward(request,response);
        }
    } else{
        readCredits(request);
        readGPAs(request);
        calculateCGPA();
        request.setAttribute("attr",cgpaAttr);
        request.getRequestDispatcher("pages/cgpa.jsp").forward(request,response);
    }
}
```

- In the CGPA page if the user changes the number of semesters , a post request is triggered which has handled by the if condition , that displays the number of option tags respectively
- If the user clicks on the calculate button the else condition is handled which first reads the total credits and GPA obtained per semester and calculates the CGPA.

```

private CGPAPostAttr cgpaAttr =
    new CGPAPostAttr( homePage: "body-gpa",
                      styleFileName: "CgpaStyle.css",
                      auth: "LogOut",
                      numberOfSubjects: 0,
                      setCGPA: false, cgpa: 0.0);

private void readCredits(HttpServletRequest request){
    cgpaAttr.initializeCreditsArray();
    for(int i = 0 ; i < cgpaAttr.getNumberOfSemester() ; i++){
        cgpaAttr.setCreditItems(Integer.parseInt(request.getParameter(s: "credits-" + i)));
    }
}

private void readGPAs(HttpServletRequest request){
    cgpaAttr.initializeGpaArray();
    for(int i = 0 ; i < cgpaAttr.getNumberOfSemester() ; i++){
        cgpaAttr.setGpaArray(Double.parseDouble(request.getParameter(s: "gpa-" + i)));
    }
}

private void calculateCGPA(){
    cgpaAttr.setTotalCredits();
    cgpaAttr.setTotalGPA();
    cgpaAttr.setCgpa();
}

```

- The CGPA is calculated with total credits and GPA obtained per semester and setting the precision to 2 decimal points.

```

public class CGPAPostAttr extends CGPAGetAttr{
    private ArrayList<Integer> credits = null;
    private ArrayList<Double>gpa = null;
    private String error = null;
    private int totalCredits = 0;
    private double totalGPA = 0.0;
    public CGPAPostAttr(String homePage, String styleFileName,
                        String auth, int numberofSubjects, boolean setCGPA, double cgpa){
        super(homePage,styleFileName,auth,numberofSubjects,setCGPA,cgpa);
    }
    public CGPAPostAttr(String homePage, String styleFileName,
                        String auth, int numberofSubjects,
                        boolean setCGPA, double cgpa,
                        ArrayList<Integer>credits,ArrayList<Double>gpa,String error) {
        super(homePage, styleFileName, auth, numberofSubjects, setCGPA, cgpa);
        this.credits = credits;
        this.gpa = gpa;
        this.error = error;
    }
}

```

```

public void setTotalCredits(){
    for(int i = 0 ; i < numberofSemester ; i++){
        totalCredits += credits.get(i);
    }
}

public void setTotalGPA(){
    for(int i = 0 ; i < numberofSemester ; i++){
        totalGPA += gpa.get(i) * credits.get(i);
    }
}

public void setCgpa(){
    this.setCGPA = true;
    cgpa = (double) Math.round((totalGPA/totalCredits) * 100) / 100;
}

```

- After the CGPA is shown and when the user wishes to save the CGPA with a name the else if condition is handled ,the user details are retrieved from the session created earlier and the CGPA is stored successfully.If the name provided by the user to save the CGPA is already present the user is prompted to provide with another name.

FILENAME : MyGPAServlet.java

HTTP METHOD : GET

URL : "/my-gpa"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;

import java.io.IOException;
import java.util.LinkedHashMap;
```

```
@WebServlet(name = "MyGPAServlet", value = "/my-gpa")
public class MyGPAServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response)
            throws ServletException, IOException {
        if(MyCookies.checkCookie(request)) {
            try {
                Class.forName("com.mysql.jdbc.Driver");
                JDBCConnection.dataBaseConnect();
                LinkedHashMap<String, Double> gpas = JDBCConnection.getGPAs(MySession.retrieveSession(request));
                request.setAttribute("attr", new MyGPA(homePage: "body-home", fileName: "myGPAs.css", auth: "LogOut", gpas));
                request.getRequestDispatcher("pages/mygpa.jsp").forward(request, response);
            } catch (Exception e) {
                try {
                    Check.check(e.toString());
                } catch (Exception ex) {
                    ex.printStackTrace();
                }
            }
        } else{
            request.getRequestDispatcher("pages/login.jsp").forward(request, response);
        }
    }
}
```

- If the user is already authenticated(cookie is stored), then from the session created earlier his/her GPA are retrieved from the database and displayed, else the user is redirected to the login page

FILENAME : MyCGPAServlet.java

HTTP METHOD : GET

URL : "/my-cgpa"

```
package com.cgpacalculator.cgpacalculator;

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import jakarta.servlet.annotation.*;

import java.io.IOException;
import java.util.LinkedHashMap;
```

```
@WebServlet(name = "MyCGPAServlet", value = "/my-cgpa")
public class MyCGPAServlet extends HttpServlet {
    @Override
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        if(MyCookies.checkCookie(request)) {
            try {
                Class.forName("com.mysql.jdbc.Driver");
                JDBCConnection.dataBaseConnect();
                LinkedHashMap<String, Double> cgpas = JDBCConnection.getCGPAs(MySession.retrieveSession(request));
                request.setAttribute("attr", new MyCGPA(homePage: "body-home", fileName: "myGPAs.css", auth: "LogOut", cgpas));
                request.getRequestDispatcher("pages/mycgpa.jsp").forward(request, response);

            } catch (Exception e) {
                try {
                    Check.check(e.toString());
                } catch (Exception ex) {
                    ex.printStackTrace();
                }
            }
        } else{
            request.getRequestDispatcher("pages/login.jsp").forward(request, response);
        }
    }
}
```

- If the user is already authenticated(cookie is stored), then from the session created earlier his/her CGPA are retrieved from the database and displayed, else the user is redirected to the login page.

DataBase Design

Web Tech Project - CGPA Calculator

...

```

1  CREATE TABLE Users
2  (
3      Student_Reg_No VARCHAR(10),
4      Student_Name VARCHAR(50),
5      Student_Email VARCHAR(50) UNIQUE,
6      Student_Password VARCHAR(50),
7      PRIMARY KEY(Student_Reg_No)
8  );
9
10 DESC USERS;

```

Success (4 rows) 0.1 s

2:35 PM

Explore SQL Data Chart Export ↗

Field	Type	Null	Key	Default	Extra
Student_Reg_No	varchar(10)	NO	PRI	NULL	
Student_Name	varchar(50)	YES		NULL	
Student_Email	varchar(50)	YES	UNI	NULL	
Student_Password	varchar(50)	YES		NULL	

Web Tech Project - CGPA Calculator

...

```

1 CREATE TABLE GPA(
2     Student_Reg_No VARCHAR(10),
3     Name VARCHAR(20),
4     GPA FLOAT,
5     FOREIGN KEY(Student_Reg_No) REFERENCES Users(Student_Reg_No),
6     PRIMARY KEY(Student_Reg_No,Name)
7 );
8
9 DESC GPA;

```

Success (3 rows) 0.1 s

2:37 PM

[Explore](#)

[SQL](#)

[Data](#)

[Chart](#)

[Export ▾](#)



Field	Type	Null	Key	Default	Extra
Student_Reg_No	varchar(10)	NO	PRI	NULL	
Name	varchar(20)	NO	PRI	NULL	
GPA	float	YES		NULL	

Web Tech Project - CGPA Calculator

...

```

1 CREATE TABLE CGPA(
2     Student_Reg_No VARCHAR(10),
3     Name VARCHAR(20),
4     CGPA FLOAT,
5     FOREIGN KEY(Student_Reg_No) REFERENCES Users(Student_Reg_No),
6     PRIMARY KEY(Student_Reg_No,Name)
7 );
8
9 DESC CGPA

```

Success (3 rows)  0.1 s

2:41 PM

Explore SQL Data Chart Export  

Field	Type	Null	Key	Default	Extra
Student_Reg_No	varchar(10)	NO	PRI	NULL	
Name	varchar(20)	NO	PRI	NULL	
CGPA	float	YES		NULL	

DataBase Methods

```
package com.cgpcalculator.cgpcalculator;

import java.sql.*;
import java.util.LinkedHashMap;
```

```
public class JDBCConnection {
    private static Connection connection;
    private static PreparedStatement preparedStatement;
    public static void DataBaseConnect() throws Exception {
        String dbConnectionString = "jdbc:mysql://localhost:3306/CGPACalculator?autoReconnect=true&useSSL=false";
        String username = "root";
        String password = "Pruthiey";
        connection = DriverManager.getConnection(dbConnectionString, username, password);
        Check.check( msg: "Successfully connected");
    }
}
```

- The database connection is created using the Java DataBase Connectivity (JDBC) with username and password

```
public static void registerUser(UserAttr user) throws Exception {
    String query = "INSERT INTO Users(Student_Reg_No,Student_Name,Student_Email,Student_Password) VALUES(?, ?, ?, ?);";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString(1,user.getRegNo());
    preparedStatement.setString(2,user.getName());
    preparedStatement.setString(3,user.getEmail());
    preparedStatement.setString(4,user.getPassword());
    preparedStatement.executeUpdate();
}
```

- This method is used to insert a new record when the user registers into the Users relation

```

public static String authenticateUser(UserAttr user) throws Exception{
    String query = "SELECT Student_Reg_No FROM Users WHERE Student_Reg_No = ? AND Student_Password = ?;";
    Check.check(user.toString());
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString( parameterIndex:1, user.getRegNo());
    preparedStatement.setString( parameterIndex:2, user.getPassword());
    ResultSet rs = preparedStatement.executeQuery();
    rs.next();
    String name = rs.getString( columnLabel: "Student_Reg_No");
    return name;
}

```

- This method is used to authenticate when the user logs in with the username and password in the Users relation

```

public static boolean checkUser(String email) throws SQLException {
    String query = "SELECT * FROM Users WHERE Student_Email = ?";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString( parameterIndex:1, email);
    ResultSet rs = preparedStatement.executeQuery();
    return rs.next();
}

```

- This method is used to check whether this user email exists in the database.
- This method is applicable in forget password feature , where the user is supposed to enter his/her email ID to receive a link to reset password.

```
public static void updatePassword(String password, String email) throws Exception{
    String query = "UPDATE Users SET Student_Password = ? WHERE Student_Email = ?;";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString(parameterIndex: 1, password);
    preparedStatement.setString(parameterIndex: 2, email);
    preparedStatement.executeUpdate();
}
```

- This method is used to update the password of a user.

```
public static void saveGPAs(Grades grades) throws Exception{
    String query = "INSERT INTO GPA(Student_Reg_No, Name, GPA) VALUES(?, ?, ?);";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString(parameterIndex: 1, grades.getRegNo());
    preparedStatement.setString(parameterIndex: 2, grades.getName());
    preparedStatement.setDouble(parameterIndex: 3, grades.getGrade());
    preparedStatement.executeUpdate();
}
```

- This method saves the user GPA with the name specified by the user into the GPA relation

```
public static void saveCGPAs(Grades grades) throws Exception{
    String query = "INSERT INTO CGPA(Student_Reg_No, Name, CGPA) VALUES(?, ?, ?);";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString(parameterIndex: 1, grades.getRegNo());
    preparedStatement.setString(parameterIndex: 2, grades.getName());
    preparedStatement.setDouble(parameterIndex: 3, grades.getGrade());
    preparedStatement.executeUpdate();
}
```

- This method saves the user CGPA with the name specified by the user into the CGPA relation

```
public static LinkedHashMap<String,Double> getGPAs(String user) throws Exception{
    LinkedHashMap<String,Double>gpas = new LinkedHashMap<>();
    String query = "SELECT Name,GPA FROM GPA WHERE Student_Reg_No = ?;";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString( parameterIndex:1,user);
    ResultSet rs = preparedStatement.executeQuery();
    while(rs.next()){
        gpas.put(rs.getString( columnLabel: "Name"),rs.getDouble( columnLabel: "GPA"));
    }
    return gpas;
}
```

- This retrieves all the user saved GPAs in a hashmap where the key is the name of the GPA and value is the GPA value.

```
public static LinkedHashMap<String,Double> getCGPAs(String user) throws Exception{
    LinkedHashMap<String,Double>cgpas = new LinkedHashMap<>();
    String query = "SELECT Name,CGPA FROM CGPA WHERE Student_Reg_No = ?;";
    preparedStatement = connection.prepareStatement(query);
    preparedStatement.setString( parameterIndex:1,user);
    ResultSet rs = preparedStatement.executeQuery();
    while(rs.next()){
        cgpas.put(rs.getString( columnLabel: "Name"),rs.getDouble( columnLabel: "CGPA"));
    }
    return cgpas;
}
```

- This retrieves all the user saved CGPAs in a hashmap where the key is the name of the CGPA and value is the CGPA value.

Java Server Pages

header.jsp

```
<%--  
  
Created by IntelliJ IDEA.  
  
User: Pruthiev  
  
Date: 07-01-2022  
  
Time: 11:28  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<%@ page import="com.cgpacalculator.cgpacalculator.HomeAttr" %>  
  
<%@ page contentType="text/html;charset=UTF-8" language="java" %>  
  
<%Object homeAttr = request.getAttribute("attr");%>  
  
<!DOCTYPE html>  
  
<html lang="en">  
  
<head>  
  
    <title>GPA CALCULATOR</title>  
  
    <!-- Required meta tags -->  
  
    <meta charset="utf-8">  
  
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
```

```

<!-- Bootstrap CSS v5.0.2 -->

<link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"
integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTWspd3yD65Vohhp
uuCOMLASjC" crossorigin="anonymous">




<!--My CSS -->

<%if(((HomeAttr)homeAttr).getStyleFileName() != null &&
((HomeAttr)homeAttr).getStyleFileName().equals("HomeStyle.css")){%>
<style><%@include file= "../css/HomeStyle.css"%></style>

<%}else if(((HomeAttr)homeAttr).getStyleFileName().equals("GpaStyle.css")){%>
<style><%@include file= "../css/GpaStyle.css"%></style>

<%}else if(((HomeAttr)homeAttr).getStyleFileName().equals("CgpaStyle.css")){%>
<style><%@include file= "../css/CgpaStyle.css"%></style>

<%}else if(((HomeAttr)homeAttr).getStyleFileName().equals("myGPAs.css")){%>
<style><%@include file= "../css/myGPAs.css"%></style>

<%}%>




<link rel="shortcut icon" href="img/android-chrome-192x192.png" type="image/x-icon">




<!--Google Fonts -->

```

```

<link
  href="https://fonts.googleapis.com/css2?family=Dancing+Script:wght@700&display=s
  swap" rel="stylesheet">

  <!--Font Awesome-->

  <link rel="stylesheet"
  href="https://pro.fontawesome.com/releases/v5.10.0/css/all.css"
  integrity="sha384-AYmEC3Yw5cVb3ZcuHtOA93w35dYTsvhLPVnYs9eStHfGJvOvKxVfEL
  GroGkvsg+p" crossorigin="anonymous"/>

</head>

<body class="<%=(HomeAttr)homeAttr.getHomePage()%>">

<nav class="navbar navbar-expand-lg navbar-dark bg-primary">

  <div class="container-fluid">

<%--  <i class="fad fa-calculator fa-3x" style="color:#EA5C2B"--%>

    <a class="navbar-brand" href="#">

    </i>GPA CALCULATOR</a>

    <button class="navbar-toggler" type="button" data-bs-toggle="collapse"
data-bs-target="#navbarScroll" aria-controls="navbarScroll" aria-expanded="false"
aria-label="Toggle navigation">

      <span class="navbar-toggler-icon"></span>

    </button>

    <div class="collapse navbar-collapse" id="navbarScroll">

```

```

<ul class="navbar-nav me-auto my-2 my-lg-0 navbar-nav-scroll"
style="--bs-scroll-height: 100px;">

    <li class="nav-item">
        <a class="nav-link" aria-current="page" href="<% =request.getContextPath()%>/"><i
class="fas fa-lg fa-home" style="color:#fff"></i></a>
    </li>

    <%String auth = ((HomeAttr)homeAttr).getAuth();%>

    <%if(auth != null && auth.equals("LogIn")){%>
        <li class="nav-item">
            <a class="nav-link" href="<% =request.getContextPath()%>/login"><i class="fas
fa-lg fa-sign-in-alt" style="color:#fff"></i></a>
        </li>
    <%}else{%
        <li class="nav-item dropdown">
            <a class="nav-link dropdown-toggle" href="/" id="navbarDropdown" role="button"
data-bs-toggle="dropdown" aria-expanded="false">
                <i class="fas fa-user-circle fa-lg" style="color:#fff;"></i>
            </a>
            <ul class="dropdown-menu bg-dark" aria-labelledby="navbarDropdown">
                <li><a class="dropdown-item menus"
href="<% =request.getContextPath()%>/my-gpa">MY GPA's</a></li>
                <li><a class="dropdown-item menus"
href="<% =request.getContextPath()%>/my-cgpa">MY CGPA's</a></li>
            </ul>
        </li>
    <%}>

```

```
<li><a class="dropdown-item menus"
href="<%request.getContextPath()%>/logout">LogOut</a></li>

<!-- <li><hr class="dropdown-divider"></li>

<li><a class="dropdown-item" href="#">Something else here</a></li> -->

</ul>

</li>

<%}>

</ul>

</div>

<br>

</div>

</nav>

</body>

</html>
```

→ This header page is imported in various jsp files to avoid repeatiton.

home.jsp

```
<%--  
  
Created by IntelliJ IDEA.  
  
User: Pruthiev  
  
Date: 07-01-2022  
  
Time: 11:28  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<%@ page contentType="text/html;charset=UTF-8" language="java" %>  
  
<%@include file="header.jsp"%>  
  
<%if(((HomeAttr)homeAttr).getWelcomeUser() != null){%>  
  
<div class="welcome-msg">  
  
    <span class="new-year">🎆Happy New Year 2022🎆</span>  
  
    <span class="welcome">⚠️ Welcome  
    <%=((HomeAttr)homeAttr).getWelcomeUser()%> ⚠️</span>  
  
    <span class="covid">⚠️Stay Safe and Healthy⚠️</span>  
  
</div>  
  
<!-- <h3 class="welcome-msg">🎆Happy New Year 2022🎆</h3>  
  
<h3 class="welcome-msg">⚠️Staf and Staf Healthy⚠️</h3> -->  
  
<%}{%>  
  
<%if(((HomeAttr)homeAttr).getLogOutMessage() != null){%>
```

```

<div class="alert alert-warning alert-dismissible fade show" role="alert">

    <strong><%=((HomeAttr)homeAttr).getLogOutMessage()%></strong> 🙏 Thanks for
visiting us ,come back soon

    <button type="button" class="btn-close" data-bs-dismiss="alert"
aria-label="Close"></button>

</div>

<!-- <h3 class="welcome-msg">🎆Happy New Year 2022🎆</h3>

<h3 class="welcome-msg">☀️Staf and Staf Healthy☀️</h3> -->

<%}>

<div class = "section">

    <div class="students">

    </div>

    <div class="grades-calculate">

        <button type="button" class="bg-primary btn btn-outline-light gpa"><a
href=<%=request.getContextPath()%>/gpa">GPA </a></button>

        <button type="button" class="bg-danger btn btn-outline-light cgpa"><a
href=<%=request.getContextPath()%>/cgpa">CGPA </a></button>

        <br><br>

        <button type="button" class="bg-success btn btn-outline-light gpa"><a
href=<%=request.getContextPath()%>/my-gpa">My GPA's</a></button>
    
```

```
<button type="button" class="bg-dark btn btn-outline-light cgpa"><a href="<%request.getContextPath()%>/my-cgpa">My CGPA's</a></button>

</div>

</div>

<br><br>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p" crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyI4H0zUF0QKbrJ0EcQF" crossorigin="anonymous"></script>

</body>

</html>
```

login.jsp

```
<%@ page import="com.cgpacalculator.cgpacalculator.LoginAttr" %><%--  
  
Created by IntelliJ IDEA.  
  
User: Hema InduKan  
  
Date: 06-01-2022  
  
Time: 16:22  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<%@ page contentType="text/html;charset=UTF-8" language="java" %>  
  
<%Object loginAttr = request.getAttribute("attr");%>  
  
<!DOCTYPE html>  
  
<html lang="en">  
  
<head>  
  
<title>Title</title>  
  
<!-- Required meta tags -->  
  
<meta charset="utf-8">  
  
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">  
  
<!-- Bootstrap CSS v5.0.2 -->  
  
<link rel="stylesheet"  
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"  
integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwFspd3yD65Vohhp  
uuCOMLASjC" crossorigin="anonymous">
```

```
<link rel="stylesheet"
      href="https://pro.fontawesome.com/releases/v5.10.0/css/all.css"
      integrity="sha384-AYmEC3Yw5cVb3ZcuHtOA93w35dYTsvhLPVnYs9eStHfGJvOvKxVfEL
      GroGkvsg+p" crossorigin="anonymous"/>

<!--Custom CSS -->

<style><%@include file= "../css/login.css"%></style>

</head>

<body>

<div class="container">

<section id="formHolder">

<%if((loginAttr) != null){%>

<%String error = ((LoginAttr)loginAttr).getFailure();%>

<% if (error != null) { %>

<div class="alert alert-danger" role="alert">

<%=error%>

</div>

<%}%>

<%}%>

<%if((loginAttr) != null){%>

<%String success = ((LoginAttr)loginAttr).getSuccess();%>

<% if (success != null) { %>
```

```
<div class="alert alert-success" role="alert">  
  <%=success%>  
  <%}>  
  <%}>  
  
<div class="row">  
  
<div class="col-sm-6 brand ">  
  <a href="/" class="logo">Home</a>  
  
<div class="heading">  
  <h2>  
    <i class="fas fa-3x fa-address-card" style="color:#FF8243"></i>  
    <br>GPA Calculator  
  </h2>  
  <br>  
  <p>By Pruthieev</p>  
</div>
```

```
<div class="success-msg">

<p>Great! You are one of our members now</p>

<a href="/" class="profile">Your Profile</a>

</div>

</div>

<!-- Form Box -->

<div class="col-sm-6 form">

<!-- Signup Form -->

<div class="signup form-peice">

<form class="signup-form" action="<% =request.getContextPath()%>/register"
      method="post" autocomplete="off">

<div class="form-group">

<label for="name">Full Name</label>

<input type="text" name="name" id="name" class="name">

<span class="error"></span>

</div>
```

```
<div class="form-group">  
    <label for="email">Email Address</label>  
    <input type="email" name="email" id="email" class="email">  
    <span class="error"></span>  
  </div>  
  
<div class="form-group">  
    <label for="phone">Registration Number</label>  
    <input type="number" name="username" id="phone" class="rno">  
    <span class="error"></span>  
  </div>  
  
<div class="form-group">  
    <label for="password">Password</label>  
    <input type="password" name="password" id="password" class="pass">  
    <span class="error"></span>  
  </div>  
  
<div class="form-group">  
    <label for="passwordCon">Confirm Password</label>
```

```
<input type="password" name="cpass" id="passwordCon"
class="passConfirm">

<span class="error"></span>

</div>

<div class="CTA">

<input type="submit" value="Signup Now" id="submit" name="reg">

<a href="#" class="switch">I have an account</a>

</div>

</form>

</div><!-- End Signup Form -->

<!-- Login Form -->

<div class="login form-peice switched">

<form class="login-form" action="<% =request.getContextPath()%>/login"
method="post" autocomplete="off">

<div class="form-group">

<label for="loginemail">Roll Number</label>

<input type="number" name="username" id="loginemail" required>

</div>

<div class="form-group">

<label for="loginPassword">Password</label>
```

```
<input type="password" name="password" id="loginPassword" required>
</div>

<div class="CTA">
<input type="submit" value="Login" name="log">
<a href="#" class="switch">I'm New</a>
<a href="<%="request.getContextPath()%>/forgotpass" class="forgotpass">Forgot Password</a>
</div>
</form>
</div><!-- End Login Form -->

</div>
</div>

</section>
</div>

<!-- Bootstrap JavaScript Libraries -->

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p" crossorigin="anonymous"></script>
```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyI4H0zUF0QKb
rJ0EcQF" crossorigin="anonymous"></script>

<!--JQuery CDN -->

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<!--Custom JS -->

<script><%@include file="../js/login.js"%></script>

</body>

</html>
```

forgetPassword.jsp

```
<%--  
  
Created by IntelliJ IDEA.  
  
User: Hema InduKan  
  
Date: 26-01-2022  
  
Time: 12:19  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<html>  
  
<head>  
  
<meta charset="UTF-8">  
  
<meta name="viewport" content="width=device-width, initial-scale=1">  
  
<title>Forgot Password</title>  
  
<style><%@include file= "../css/login.css"%></style>  
  
<style>  
 .box {  
 margin-top: 160px;  
 width: 600px;  
 height: 200px;  
 color: #443a3a86;  
 background: #fff;
```

```
top: 50%;  
left: 50%;  
position: relative;  
transform: translate(-50%, -50%);  
box-shadow: 3px 3px 10px rgba(0, 0, 0, 0.2);  
box-sizing: border-box;  
}  
  
h2 {  
font-size: 40px;  
font-weight: 500;  
text-transform: uppercase;  
margin-top: 50px;  
margin-bottom: 0;  
text-align: center;  
}  
  
p {  
font-size: 15px;  
font-weight: 300;  
text-transform: uppercase;  
letter-spacing: 2px;  
font-family: "Raleway", sans-serif;
```

```
text-align: center;  
}  
  
.form form input:not([type="button"]) {  
border-bottom: 1px solid #2e3436;  
}  
  
.switch{  
margin-top:1rem;  
text-align: center;  
}  
  
#goback {  
color: #443a3a86;  
}  
  
#goback:hover{  

```

```
background-color:#7900FF;  
border-radius: 20px;  
width: 50%;  
margin: auto;  
height:3rem;  
padding: 1rem;  
box-sizing: border-box;  
display: none;  
}  
  
.message-failure{  
color:white;  
background-color:#DD4A48;  
border-radius: 20px;  
width: 50%;  
margin: auto;  
height:3rem;  
padding: 1rem;  
box-sizing: border-box;  
display: none;  
}  
  
@media (max-width: 480px) {
```

```
.wrap {  
    width: 400px;  
    overflow: hidden;  
}  
  
.box {  
    position: fixed;  
    margin-top: 80px;  
    width: 80%;  
}  
  
#highlight {  
    margin: 10px;  
}  
  
@media (min-width: 768px) {  
    .wrap {  
        width: 100%;  
        overflow: hidden;  
    }  
}  
  
</style>  
  
</head>
```

```
<body>

<div class="wrap">

<div class="col-sm-6 form">

    <div id="highlight">
        <h2>FORGOT PASSWORD</h2>
        <p>Enter your registered email to reset your password.</p>
    </div>

    <div class="box">
        <form class="signup-form" method="post">
            <div class="form-group">
                <label for="email">Email Address</label>
                <input type="email" name="email" id="email" class="email" required>
                <span class="error"></span>
            </div>
            <div class="CTA">
                <input type="button" value="Proceed" id="submit" name="proceed" class="proceed">
                <a href="<% =request.getContextPath()%>/login" class="switch" id="goback">Back to login</a>
            </div>
        </form>
    </div>
</div>
```

```
</div>

</form>

</div>

<p class="message-success"><%=request.getContextPath()%></p>

<p class="message-failure"><%=request.getContextPath()%></p>

</div>

</div>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script><%@include file="../../js/forgotPass.js"%></script>

</body>

</html>
```

reset.jsp

```
<%--  
  
Created by IntelliJ IDEA.  
  
User: Hema InduKan  
  
Date: 26-01-2022  
  
Time: 18:32  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<%@ page contentType="text/html;charset=UTF-8" language="java" %>  
  
<html>  
  
<head>  
  
    <meta charset="UTF-8">  
  
    <meta name="viewport" content="width=device-width, initial-scale=1">  
  
<title>Reset Password</title>  
  
<style><%@include file= "../css/login.css"%></style>  
  
<style>  
  
    .box {  
  
        margin-top: 200px;  
  
        width: 500px;  
  
        height: 300px;
```

```
color: #443a3a86;  
background: #fff;  
top: 50%;  
left: 50%;  
position: relative;  
transform: translate(-50%, -50%);  
box-shadow: 3px 3px 10px rgba(0, 0, 0, 0.2);  
box-sizing: border-box;  
  
}
```

```
h2 {  
font-size: 40px;  
font-weight: 500;  
text-transform: uppercase;  
margin-top: 20px;  
margin-bottom: 0;  
text-align: center;  
  
}
```

```
p {  
    font-size: 15px;  
    font-weight: 300;  
    text-transform: uppercase;  
    letter-spacing: 2px;  
    white-space: 4px;  
    font-family: "Raleway", sans-serif;  
    text-align: center;  
}
```

```
.form form input:not([type="submit"]) {  
    border-bottom: 1px solid rgb(226, 221, 221);  
}
```

```
#goback {  
    color: #443a3a86;  
}
```

```
#goback:hover {  
    color: #f95959;  
    cursor: pointer;
```

```
}

#submit:hover {
    cursor: pointer;
}

#space {
    margin: 50px;
}

@media (max-width: 480px) {
    .wrap {
        width: 400px;
        overflow: hidden;
    }
}

.box {
    position: fixed;
    margin-top: 100px;
    width: 80%;
}
```

```
#highlight {  
margin: 10px;  
}  
  
}  
  
@media (max-width: 330px) {  
.box {  
margin-top: 80px;  
}  
}  
  
@media (min-width: 768px) {  
.wrap {  
width: 100%;  
overflow: hidden;  
}  
}  
  
</style>
```

```
</head>

<body>
<div class="wrap">
<div class="col-sm-6 form">
<div id="highlight">
<h2>RESET PASSWORD</h2>
<p>Enter your new password and confirm it</p>
</div>
<div class="box">
<form class="signup-form" action="<%request.getContextPath()%>/reset"
id="check" method="post" onsubmit="return validate()">
<div class="form-group">
<label for="password">Password</label>
<input type="password" name="password" id="password" class="pass"
pattern=".{8,}" title="Password should contain atleast eight characters" required>
<span class="error"></span>
```

```
</div>

<div id="space"></div>

<div class="form-group">
    <label for="passwordCon">Confirm Password</label>
    <input type="password" name="cpass" id="passwordCon" class="passConfirm" pattern=".{8,}" title="Password should contain atleast eight characters" required>
    <span class="error"></span>
</div>

<div class="CTA">
    <input type="submit" value="Reset" id="submit" name="reset_pass">
    <a href="/" class="switch" id="goback">Back to home</a>
</div>
</form>
</div>

</div>
</div>

<script>
    function validate() {
        var pass1 = document.getElementById('password').value;
        var pass2 = document.getElementById('passwordCon').value;
    }
</script>
```

```
if (pass1 != pass2) {  
  
    alert("The passwords do NOT match");  
  
    document.getElementById('check').reset();  
  
    return false;  
  
}  
  
}  
  
</script>  
  
</body>  
  
</html>
```

- The form is submitted only if both the password and confirm password is one and the same

cgpa.jsp

```
<%@ page import="com.cgpacalculator.cgpacalculator.CGPAPostAttr" %><%--  
  
Created by IntelliJ IDEA.  
  
User: Hema InduKan  
  
Date: 07-01-2022  
  
Time: 15:15  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<%@ include file="header.jsp"%>  
  
<!-- Input field to get the number of subjects-->  
  
<div class="gpa-fields">  
  
    <form action="<%=request.getContextPath()%>/cgpa" method="post"  
    id="subjectCount">  
  
        <span class="dropdown">Enter the number of Semesters :  
  
        <input type="hidden" name="subjectCount">  
  
        <select name="semesters" class="dropdown-subjects">  
  
            <%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 0){%>  
  
                <option value="0" selected>0</option>  
  
            <%}else{%->  
  
                <option value="0">0</option>  
  
            <%}%>  
  
            <%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 1){%>
```

```
<option value="1" selected>1</option>

<%}else{%

<option value="1">1</option>

<%}%>

<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 2){%>

<option value="2" selected>2</option>

<%}else{%

<option value="2">2</option>

<%}%>

<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 3){%>

<option value="3" selected>3</option>

<%}else{%

<option value="3">3</option>

<%}%>

<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 4){%>

<option value="4" selected>4</option>

<%}else{%

<option value="4">4</option>

<%}%>

<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 5){%>

<option value="5" selected>5</option>
```

```
<%}else{%
<option value="5">5</option>
<%}>
<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 6){%
<option value="6" selected>6</option>
<%}else{%
<option value="6">6</option>
<%}>
<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 7){%
<option value="7" selected>7</option>
<%}else{%
<option value="7">7</option>
<%}>
<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() == 8){%
<option value="8" selected>8</option>
<%}else{%
<option value="8">8</option>
<%}>
</select>
</span>
<br><br>
```

```

</form>

<!--Form for Entering Credits and Grades -->

<form action="<%request.getContextPath()%>/cgpa" id="subjectCount" method="post"
class="input-fields">

<%if(((CGPAPostAttr)homeAttr).getCredits() != null){%>

<%for(int i = 0 ; i < ((CGPAPostAttr)homeAttr).getNumberOfSemester() ; i++){%>

<%if(i % 2 == 0 && i > 0){%>

<br><br>

<%}{%>

<span class="dropdown-fields">

<span class="dropdown-credits-box">Total Credits :

<input type="number" name="credits-<%=i%>" class="dropdown-credits" value =
<%=((CGPAPostAttr)homeAttr).getCredits().get(i)%> required>

</span>

<span class="grades">CGPA :

<input type="number" name="gpa-<%=i%>" class="dropdown-grades" step="0.01"
value = <%=((CGPAPostAttr)homeAttr).getGrades().get(i)%> required >

</span>

</span>

<%}{%>

<%}else{%->

<%for(int i = 0 ; i < ((CGPAPostAttr)homeAttr).getNumberOfSemester() ; i++){%>

<%if(i % 2 == 0 && i > 0){%>

```

```

<br><br>

<%}{%>

<span class="dropdown-fields">

<span class="dropdown-credits-box">Total Credits :

<input type="number" name="credits-<%=i%>" class="dropdown-credits" required>

</span>

<span class="grades">GPA :

<input type="number" name="gpa-<%=i%>" class="dropdown-grades" step="0.01"
required >

</span>

</span>

<%}{%>

<%}{%>

<%if(((CGPAPostAttr)homeAttr).getNumberOfSemester() != 0){%>

<br><br><button type="submit" class="btn-submit btn btn-primary
btn-outline-success" style="color:white; width:20%;
border-radius:30px;">CALCULATE</button>

<%}{%>

</form>

<%if(((CGPAPostAttr)homeAttr).getSetCGPA()){%>

<div class="gpa-val-box">

<div class="gpa-div" style="margin-top:1rem;">

```

```

<span class="gpa-val">Your GPA is
:<%=((CGPAPostAttr)homeAttr).getCgpa()%></span><br><br>

<form action="<%=request.getContextPath()%>/cgpa" method="post"
id="input-save-name">

    <input placeholder="Enter name" type="text" style="color:black"
name="saveName" id="input-save"><br><br>

</form>

    <button type="button" class="btn btn-success" id="gpa-div-save">SAVE</button>
    <button type="button" class="btn btn-danger" id="gpa-div-close">CLOSE</button>
</div>

</div>

<%}>
<br><br>

<% if (((CGPAPostAttr)homeAttr).getError() != null) { %>

    <div class="alert alert-danger"
role="alert"><%=((CGPAPostAttr)homeAttr).getError()%></div>

<%}>
</div>

<!-- Bootstrap JavaScript Libraries -->

<script><%@include file="../js/Cgpa.js"%></script>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p"
crossorigin="anonymous"></script>

```

```
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyI4H0zUF0QKb
rJ0EcQF" crossorigin="anonymous"></script>

</body>

</html>
```

gpa.jsp

```
<%-->

Created by IntelliJ IDEA.

User: Pruthiev

Date: 07-01-2022

Time: 11:28

To change this template use File | Settings | File Templates.

--%>

<%@ page import="com.cgpacalculator.cgpacalculator.GPAGetAttr" %>
<%@ page import="com.cgpacalculator.cgpacalculator.GPAPostAttr" %>
<%@ page contentType="text/html;charset=UTF-8" language="java" %>
<%@ include file="header.jsp" %>
<div class="gpa-fields">
<form action="<%=request.getContextPath()%>/gpa" method="post" id="subjectCount">
<span class="dropdown">Enter the number of subjects :
<input type="hidden" name="subjectCount">
```

```
<select name="subjects" class="dropdown-subjects" >

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 0){%>

<option value="0" selected>0</option>

<%}else{%

<option value="0">0</option>

<%}>

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects()== 1){%>

<option value="1" selected>1</option>

<%}else{%

<option value="1">1</option>

<%}>

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 2){%>

<option value="2" selected>2</option>

<%}else{%

<option value="2">2</option>

<%}>

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 3){%>

<option value="3"selected>3</option>

<%}else{%

<option value="3">3</option>

<%}>
```

```
<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 4){%>

<option value="4" selected>4</option>

<%}else{%

<option value="4">4</option>

<%}%>

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 5){%>

<option value="5" selected>5</option>

<%}else{%

<option value="5">5</option>

<%}%>

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 6){%>

<option value="6" selected>6</option>

<%}else{%

<option value="6">6</option>

<%}%>

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 7){%>

<option value="7" selected>7</option>

<%}else{%

<option value="7">7</option>

<%}if(((GPAPostAttr)homeAttr).getNumberOfSubjects() == 8){%>

<option value="8" selected>8</option>
```

```

<%}else{%
<option value="8">8</option>
<%}>
</select>
</span>
<br><br>
</form>

<!--Form for Entering Credits and Grades -->

<form action="<%=>request.getContextPath()%>/gpa" id="subjectCount" method="post"
class="input-fields">

<%if(((GPAPostAttr)homeAttr).getCredits() != null){%
<%for(int i = 0 ; i < ((GPAPostAttr)homeAttr).getNumberOfSubjects(); i++){%
<%if(i % 2 == 0 && i > 0){%
<br><br>
<%}>
<span class="dropdown">
<span>Credits :
<select name="subject-<%=i%>-credits" class="dropdown-credits">
<%if(((GPAPostAttr)homeAttr).getCredits().get(i) == 1){%
<option value="1" selected>1</option>
<%}else{%
<option value="1">1</option>

```

```
<%}{%>

<%if(((GPAPostAttr)homeAttr).getCredits().get(i) == 2){%>

<option value="2" selected>2</option>

<%}else{%>

<option value="2">2</option>

<%}{%>

<%if(((GPAPostAttr)homeAttr).getCredits().get(i) == 3){%>

<option value="3" selected>3</option>

<%}else{%>

<option value="3">3</option>

<%}{%>

<%if(((GPAPostAttr)homeAttr).getCredits().get(i)== 4){%>

<option value="4" selected>4</option>

<%}else{%>

<option value="4">4</option>

<%}{%>

<!-- <option value="1">1</option>

<option value="2">2</option>

<option value="3" selected>3</option>

<option value="4">4</option> -->

</select>
```

```
</span>

<span class="grades">Grade :

<select name="subject-<%=i%>-grade" class="dropdown-grades">

<%if(((GPAPostAttr)homeAttr).getGrades().get(i) == 10){%>

<option value="O" selected>O</option>

<%}else{%->

<option value="O">O</option>

<%}%>

<%if(((GPAPostAttr)homeAttr).getGrades().get(i) == 9){%>

<option value="A+" selected>A+</option>

<%}else{%->

<option value="A+">A+</option>

<%}%>

<%if(((GPAPostAttr)homeAttr).getGrades().get(i) == 8){%>

<option value="A" selected>A</option>

<%}else{%->

<option value="A">A</option>

<%}%>

<%if(((GPAPostAttr)homeAttr).getGrades().get(i) == 7){%>

<option value="B+" selected>B+</option>

<%}else{%->
```

```
<option value="B+">B+</option>

<%}>

<%if(((GPAPostAttr)homeAttr).getGrades().get(i) == 6){%>

<option value="B" selected>B</option>

<%}else{%

<option value="B">B</option>

<%}>

<!-- <option value="O">O</option>

<option value="A+">A+</option>

<option value="A" selected>A</option>

<option value="B+">B+</option>

<option value="B">B</option> -->

</select>

</span>

</span>

<%}>

<%}else{%

<%for(int i = 0 ; i < ((GPAPostAttr)homeAttr).getNumberOfSubjects() ; i++){%>

<%if(i % 2 == 0 && i > 0){%>

<br><br>

<%}>
```

```
<span class="dropdown">  
    <span>Credits :  
        <select name="subject-<%=i%>-credits" class="dropdown-credits">  
            <option value="1">1</option>  
            <option value="2">2</option>  
            <option value="3" selected>3</option>  
            <option value="4">4</option>  
        </select>  
    </span>  
    <span class="grades">Grade :  
        <select name="subject-<%=i%>-grade" class="dropdown-grades">  
            <option value="O">O</option>  
            <option value="A+">A+</option>  
            <option value="A" selected>A</option>  
            <option value="B+">B+</option>  
            <option value="B">B</option>  
        </select>  
    </span>  
    </span>  
<%}>  
<%}>
```

```

<%if(((GPAPostAttr)homeAttr).getNumberOfSubjects() != 0){%>

    <br><br><button type="submit" class="btn-submit btn btn-primary
btn-outline-success" id="submitGPA" style="color:black; width:20%;
border-radius:30px;">CALCULATE</button>

<%}>

</form>

<%if(((GPAPostAttr)homeAttr).getSetCGPA()){%>

<div class="gpa-val-box">

    <div class="gpa-div" style="margin-top:1rem;">

        <span class="gpa-val">Your GPA is
:<%=((GPAPostAttr)homeAttr).getGpa()%></span><br><br>

        <form action="<%request.getContextPath()%>/gpa" method="post"
id="input-save-name">

            <input placeholder="Enter name" style="color:black" type="text" name="saveName"
id="input-save"><br><br>

        </form>

        <button type="button" class="btn btn-success" id="gpa-div-save">SAVE</button>

        <button type="button" class="btn btn-danger" id="gpa-div-close">CLOSE</button>

    </div>

</div>

<%}>

<br><br>

<% if (((GPAPostAttr)homeAttr).getError() != null) { %>

```

```
<div class="alert alert-danger alert-dismissible fade show" role="alert">

    <strong
style="color:red;"> ! ! ! <%=((GPAPostAttr)homeAttr).getError()%></strong>

    <button type="button" class="btn-close" data-bs-dismiss="alert"
aria-label="Close"></button>

</div>

<%}>

</div>

<!-- Bootstrap JavaScript Libraries -->

<script><%@include file="../../js/GpaJS.js"%></script>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p"
crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyI4H0zUF0QKbrJ0EcQF"
crossorigin="anonymous"></script>

</body>

</html>
```

mygpa.jsp

```
<%@ page import="com.cgpacalculator.cgpacalculator.MyGPA" %>
<%@ page import="java.util.HashMap" %>
<%@ page import="java.util.Map" %><%--  

Created by IntelliJ IDEA.  

User: Pruthiev A S  

Date: 07-01-2022  

Time: 16:10  

To change this template use File | Settings | File Templates.  

--%>  

<%@ include file="header.jsp"%>  

<%Object myGpa = request.getAttribute("attr");%>  

<%for(Map.Entry<String,Double>gpas : ((MyGPA)myGpa).getGpas().entrySet()){%>  

<div class="credits-grades d-flex">  

<div class="details align-self-center">  

<p class="name" style="margin-top: 1rem;">Name : <%=gpas.getKey()%></p>  

<p class="reg">gpa : <%=gpas.getValue()%></p>  

</div>  

</div>  

<%}>  

<%if(((MyGPA)myGpa).getGpas().size() == 0){%>  

<p class="result">You have no saved GPA's</p>
```

```
<%}%>

<br><br><br>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

$(document).ready(function () {

    $("title").text("My GPA");

});

$(".gpa-icon").hover(function () {

    $(".gpa-icon").css("cursor", "pointer");

});

$(".cgpa-icon").hover(function () {

    $(this).css("cursor", "pointer");

});

$(".gpa-icon").click(function () {

    location.assign("/gpa");

});

$(".cgpa-icon").click(function () {

    location.assign("/cgpa");

});

</script>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"

```

```

integrity="sha384-lQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p" crossorigin="anonymous">></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWIC2AI4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyl4H0zUF0QKbrJ0EcQF" crossorigin="anonymous"></script>

</body>

</html>

```

mycgpa.jsp

```

<%@ page import="com.cgpacalculator.cgpacalculator.MyCGPA" %>

<%@ page import="java.util.Map" %><%-->

Created by IntelliJ IDEA.

User: Hema InduKan

Date: 07-01-2022

Time: 16:36

To change this template use File | Settings | File Templates.

--%>

<%@ include file="header.jsp"%>

<%Object myGpa = request.getAttribute("attr");%>

<%for(Map.Entry<String,Double>gpas : ((MyCGPA)myGpa).getCGPAs().entrySet())%>

<div class="credits-grades d-flex">

<div class="details align-self-center">

```

```
<p class="name" style="margin-top: 1rem;">Name : <%=gpas.getKey()%></p>

<p class="reg">gpa : <%=gpas.getValue()%></p>

</div>

</div>

<%}>

<%if(((MyCGPA)myGpa).getCGPAs().size() == 0){%>

<p class="result">You have no saved GPA's</p>

<%}>

<br><br><br>

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

$(document).ready(function () {

    $("title").text("My GPA");

});

$(".gpa-icon").hover(function () {

    $(".gpa-icon").css("cursor", "pointer");

});

$(".cgpa-icon").hover(function () {

    $(this).css("cursor", "pointer");

});

$(".gpa-icon").click(function () {
```

```
location.assign("/gpa");

});

$(".cgpa-icon").click(function () {

location.assign("/cgpa");

});

</script>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p" crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWiC2AI4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyI4H0zUF0QKbrJ0EcQF" crossorigin="anonymous"></script>

</body>

</html>
```

Error.jsp

```
<%--  
  
Created by IntelliJ IDEA.  
  
User: Hema InduKan  
  
Date: 27-01-2022  
  
Time: 16:13  
  
To change this template use File | Settings | File Templates.  
--%>  
  
<%@ page contentType="text/html;charset=UTF-8" language="java" %>  
  
<!doctype html>  
  
<html lang="en">  
  
<head>  
  
<title>404 Page Not Found </title>  
  
<!-- Required meta tags -->  
  
<meta charset="utf-8">  
  
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">  
  
<!-- Bootstrap CSS v5.0.2 -->  
  
<link rel="stylesheet"  
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/bootstrap.min.css"  
integrity="sha384-EVSTQN3/azprG1Anm3QDgpJLIm9Nao0Yz1ztcQTwpFspd3yD65Vohhp  
uuCOMLASjC" crossorigin="anonymous">  
  
<style>
```

```
.page_404 {  
    text-align: center;  
}  
  
.four-zero-four {  
    width: 40%;  
}  
  
.fnf {  
    font-size: 2.5rem;  
    font-family: "Dancing Script", cursive;  
}  
  
.btn,  
.home-button {  
    color: white;  
    border-radius: 20px;  
    width: 10%;  
}  
  
.home-button {  
    margin-right: 4rem;  
}  
  
</style>  
  
<!--Favicon-->
```

```
<link rel="shortcut icon" href="img/android-chrome-192x192.png"
type="image/x-icon">

</head>

<body>

<section class="page_404">

    <p class="fnf">PAGE NOT FOUND</p>

    <button type="button" class="btn btn-outline-dark btn-primary
home-button">Home</button>

<%-- <%if(isLoginned){%>--%>

    <button type="button" class="btn btn-outline-dark btn-success
login-button">Login</button>

<%-- <%}%--%>

</section>

<!-- Bootstrap JavaScript Libraries -->

<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>

<script>

    $(document).ready(function () {
        $(".home-button").click(function () {
            location.assign("/");
        })
    })
</script>
```

```
});

$(".login-button").click(function () {
    location.assign("/login");
});

});

</script>

<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.9.2/dist/umd/popper.min.js"
integrity="sha384-IQsoLXI5PILFhosVNubq5LC7Qb9DXgDA9i+tQ8Zj3iwWAwPtgFTxbJ8NT4GN1R8p" crossorigin="anonymous"></script>

<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/js/bootstrap.min.js"
integrity="sha384-cVKIPhGWiC2Al4u+LWgxfKTRIcfu0JTxR+EQDz/bgIdoEyl4H0zUF0QKbrJ0EcQF" crossorigin="anonymous"></script>

</body>

</html>
```

CgpaStyle.css

```
* {  
    color: white;  
}  
  
option {  
    background-color: #000;  
}  
  
.body-gpa {  
    background-image: linear-gradient(#ff5f6d, #ffc371);  
    position: relative;  
    min-height: 100vh;  
}  
  
nav.navbar {  
    height: 10rem;  
}  
  
.navbar-brand img {  
    height: 5rem;  
    width: 5rem;  
    margin-right: 1rem;  
}  
  
.navbar-brand {
```

```
font-size: 2rem;  
font-weight: bold;  
}  
  
ul.navbar-nav {  
  
position: absolute;  
right: 7rem;  
}  
  
  
li.nav-item {  
  
font-size: 1.1rem;  
margin-left: 2rem;  
}  
  
.dropdown-menu {  
  
box-shadow: rgba(0, 0, 0, 0.25) 0px 54px 55px,  
rgba(0, 0, 0, 0.12) 0px -12px 30px, rgba(0, 0, 0, 0.12) 0px 4px 6px,  
rgba(0, 0, 0, 0.17) 0px 12px 13px, rgba(0, 0, 0, 0.09) 0px -3px 5px;  
}  
  
.menus {  
  
background-color: #ea5c2b;  
color: #fff;  
border-style: solid;
```

100

```
border-width: 1px;  
border-color: black;  
margin-bottom: 0.5rem;  
}  
  
.menus:hover {  
background-color: #3e7c17;  
}  
  
.gpa-fields {  
margin-top: 3rem;  
text-align: center;  
}  
  
span.dropdown {  
border-style: solid;  
border-width: 2px;  
border-color: #fff;  
border-radius: 50px;  
display: inline-block;  
width: 30%;  
padding-top: 1rem;  
padding-bottom: 1rem;  
margin-bottom: 2rem;
```

```
font-size: 1.3rem;  
color: #000;  
}  
  
span.dropdown-fields {  
  
border-style: solid;  
border-width: 2px;  
border-color: #fff;  
border-radius: 50px;  
display: inline-block;  
width: 30%;  
margin-left: 1.5rem;  
color: #000;  
}  
  
.dropdown-subjects {  
  
border-style: none;  
margin-left: 1rem;  
}  
  
.dropdown-credits {  
  
width: 25%;  
border: none;  
border-bottom-style: solid;
```

```
border-bottom-color: #000;  
border-bottom-width: 2px;  
margin-top: 1rem;  
margin-bottom: 1rem;  
color: #000;  
}  
  
.dropdown-credits:focus {  
outline: none;  
width: 25%;  
border: none;  
border-bottom-style: solid;  
border-bottom-color: #000;  
border-bottom-width: 2px;  
color: #000;  
}  
  
.dropdown-grades {  
width: 25%;  
border: none;  
border-bottom-style: solid;  
border-bottom-color: #000;  
border-bottom-width: 2px;
```

```
margin-top: 1rem;  
margin-bottom: 1rem;  
color: #000;  
}  
  
.dropdown-grades:focus {  
outline: none;  
width: 25%;  
border: none;  
border-bottom-style: solid;  
border-bottom-color: #000;  
border-bottom-width: 2px;  
}  
  
.grades {  
margin-left: 2rem;  
color: #000;  
}  
  
.input-fields {  
box-sizing: unset;  
}  
  
span.dropdown-credits-box {  
color: #000;
```

```
}
```

```
select.dropdown-subjects {
```

```
background-image: linear-gradient(#ff5f6d, #ffc371);
```

```
}
```

```
input.dropdown-credits {
```

```
background-image: linear-gradient(#ff5f6d, #ffc371);
```

```
}
```

```
input.dropdown-grades {
```

```
background-image: linear-gradient(#ff5f6d, #ffc371);
```

```
}
```

```
.btn-submit {
```

```
margin-bottom: 3rem;
```

```
}
```

```
.gpa-val-box,
```

```
.save-close-box {
```

```
border-style: solid;
```

```
background-color: orange;
```

```
border-width: 0px;
```

```
border-radius: 25px;
```

```
display: inline-block;
```

```
height: 7rem;
```

105

```
width: 15%;  
}  
  
#input-save-name {  
  
    display: none;  
}  
  
.save-close-box {  
  
    display: none;  
}  
  
.footer {  
  
    position: absolute;  
  
    text-align: center;  
  
    bottom: 0px;  
  
    width: 100%;  
  
    height: 5rem;  
  
    background-color: #000;  
}  
  
  
.footer p {  
  
    margin-top: 25px;  
  
    font-size: 1rem;  
  
    color: #fff;
```

```
}
```

GpaStyle.css

```
* {  
    color: white;  
}  
  
option {  
    background-color: #000;  
}  
  
.body-gpa {  
    background-image: linear-gradient(#ff512f, #dd2476);  
    position: relative;  
    min-height: 100vh;  
}  
  
nav.navbar {  
    height: 10rem;  
}  
  
.navbar-brand img {  
    height: 5rem;  
    width: 5rem;  
    margin-right: 1rem;
```

```
}
```

```
.navbar-brand {
```

```
    font-size: 2rem;
```

```
    font-weight: bold;
```

```
}
```

```
ul.navbar-nav {
```

```
    position: absolute;
```

```
    right: 7rem;
```

```
}
```



```
li.nav-item {
```

```
    font-size: 1.1rem;
```

```
    margin-left: 1rem;
```

```
}
```

```
.dropdown-menu {
```

```
    box-shadow: rgba(0, 0, 0, 0.25) 0px 54px 55px,
```

```
               rgba(0, 0, 0, 0.12) 0px -12px 30px, rgba(0, 0, 0, 0.12) 0px 4px 6px,
```

```
               rgba(0, 0, 0, 0.17) 0px 12px 13px, rgba(0, 0, 0, 0.09) 0px -3px 5px;
```

```
}
```

```
.menus {
```

```
    background-color: #ea5c2b;
```

```
color: #fff;  
border-style: solid;  
border-width: 1px;  
border-color: black;  
margin-bottom: 0.5rem;  
}  
  
.menus:hover {  
background-color: #3e7c17;  
}  
  
.gpa-fields {  
margin-top: 3rem;  
text-align: center;  
}  
  
span.dropdown {  
border-style: solid;  
border-color: #000;  
border-width: 2px;  
border-radius: 50px;  
display: inline-block;  
width: 25%;  
height: 3rem;
```

```
padding-top: 0.5rem;  
  
font-size: 1.3rem;  
  
text-transform: capitalize;  
  
margin-right: 2rem;  
}  
  
  
.dropdown-subjects,  
.dropdown-credits,  
.dropdown-grades {  
  
border-style: none;  
  
margin-left: 1rem;  
  
font-size: 1.1rem;  
}  
  
.grades {  
  
margin-left: 2rem;  
}  
  
.input-fields {  
  
box-sizing: unset;  
}  
  
.btn-submit {  
  
margin-bottom: 3rem;
```

```
}
```

```
select.dropdown-subjects {
```

```
    background-image: linear-gradient(#ff512f, #dd2476);
```

```
}
```

```
select.dropdown-credits {
```

```
    background-image: linear-gradient(#ff512f, #dd2476);
```

```
}
```

```
select.dropdown-grades {
```

```
    background-image: linear-gradient(#ff512f, #dd2476);
```

```
}
```

```
.gpa-val-box,
```

```
.save-close-box {
```

```
    border-style: solid;
```

```
    background-color: orange;
```

```
    border-width: 0px;
```

```
    border-radius: 25px;
```

```
    display: inline-block;
```

```
    height: 7rem;
```

```
    width: 15%;
```

```
}
```

```
#input-save-name {
```

```
display: none;  
}  
  
.save-close-box {  
display: none;  
}  
  
.footer {  
position: absolute;  
text-align: center;  
bottom: 0px;  
width: 100%;  
height: 5rem;  
background-color: #000;  
}  
  
.footer p {  
margin-top: 25px;  
font-size: 1rem;  
color: #fff;
```

HomeStyle.css

```
::-webkit-scrollbar {  
  
    width: 20px;  
  
}  
  
/* Track */  
  
::-webkit-scrollbar-track {  
  
    box-shadow: inset 0 0 5px grey;  
  
    border-radius: 10px;  
  
}  
  
/* Handle */  
  
::-webkit-scrollbar-thumb {  
  
    background: #b30000;  
  
    border-radius: 10px;  
  
}  
  
/* Handle on hover */  
  
::-webkit-scrollbar-thumb:hover {  
  
    background: green;  
  
}  
  
.body-home {
```

```
background-image: linear-gradient(315deg, #ffac81 0%, #ff928b 74%);  
}  
  
.body-gpa {  
  
background-color: #fff;  
}  
  
nav.navbar {  
  
height: 10rem;  
}  
  
.navbar-brand img {  
  
height: 5rem;  
  
width: 5rem;  
  
margin-right: 1rem;  
}  
  
.navbar-brand {  
  
font-size: 2rem;  
  
font-weight: bold;  
}  
  
ul.navbar-nav {  
  
position: absolute;  
  
right: 7rem;  
}
```

```
li.nav-item {  
    font-size: 1.1rem;  
    margin-left: 1rem;  
}  
  
.dropdown-menu {  
    box-shadow: rgba(0, 0, 0, 0.25) 0px 54px 55px,  
               rgba(0, 0, 0, 0.12) 0px -12px 30px, rgba(0, 0, 0, 0.12) 0px 4px 6px,  
               rgba(0, 0, 0, 0.17) 0px 12px 13px, rgba(0, 0, 0, 0.09) 0px -3px 5px;  
}  
  
.menus {  
    background-color: #ea5c2b;  
    color: #fff;  
    border-style: solid;  
    border-width: 1px;  
    border-color: black;  
    margin-bottom: 0.5rem;  
}  
  
.menus:hover {  
    background-color: #3e7c17;  
}
```

```
.welcome-msg {  
    margin-top: 2rem;  
    text-align: left;  
    margin-bottom: 2rem;  
    text-transform: uppercase;  
    font-size: 2rem;  
}  
  
.welcome-msg .new-year {  
    margin-left: 1rem;  
    margin-right: 7rem;  
}  
  
.welcome-msg .welcome {  
    margin-right: 2rem;  
}  
  
.section {  
    margin-top: 1rem;  
    text-align: center;  
}  
  
img.male-student {  
    height: 9rem;  
    width: 9rem;
```

```
margin-right: 8rem;  
}  
  
img.female-student {  
  
height: 8rem;  
  
width: 8rem;  
}  
  
.grades-calculate {  
  
margin-top: 2rem;  
}  
  
.gpa {  
  
border-style: solid;  
  
border-color: #000;  
  
border-width: 3px;  
  
height: 8.5rem;  
  
width: 8.5rem;  
  
border-radius: 100%;  
  
margin-right: 8rem;  
}  
  
.gpa a {  
  
text-decoration: none;  
  
color: white;
```

```
}
```

```
.cgpa {
```

```
    border-style: solid;
```

```
    border-color: #000;
```

```
    border-width: 3px;
```

```
    height: 8.5rem;
```

```
    width: 8.5rem;
```

```
    border-radius: 100%;
```

```
}
```

```
.cgpa a {
```

```
    text-decoration: none;
```

```
    color: white;
```

```
}
```



```
.footer {
```

```
    position: absolute;
```

```
    text-align: center;
```

```
    bottom: 0;
```

```
    width: 100%;
```

```
    height: 5rem;
```

```
    background-color: #000;
```

```
}
```



```
.footer p {
```



```
    margin-top: 25px;
```



```
    font-size: 1rem;
```



```
    color: #fff;
```



```
}
```

login.css

```
body {
```



```
    font-family: "Montserrat", sans-serif;
```



```
    background: #f7edd5;
```



```
}
```



```
.container {
```



```
    max-width: 900px;
```



```
}
```



```
a {
```



```
    display: inline-block;
```



```
    text-decoration: none;
```



```
}
```

```
input {  
    outline: none !important;  
}  
  
h1 {  
    text-align: center;  
    text-transform: uppercase;  
    margin-bottom: 40px;  
    font-weight: 700;  
}  
  
section#formHolder {  
    padding: 50px 0;  
}  
  
.brand {  
    padding: 20px;  
    background-size: cover;  
    background-position: center center;  
    color: #fff;
```

```
min-height: 540px;  
position: relative;  
box-shadow: 3px 3px 10px rgba(0, 0, 0, 0.3);  
transition: all 0.6s cubic-bezier(1, -0.375, 0.285, 0.995);  
z-index: 9999;  
}  
  
.brand.active {  
width: 100%;  
}  
  
.brand::before {  
content: "";  
display: block;  
width: 100%;  
height: 100%;  
position: absolute;  
top: 0;  
left: 0;  
background: rgba(0, 0, 0, 0.94);  
z-index: -1;  
}  
  
.brand a.logo {
```

```
color: #f95959;  
font-size: 20px;  
font-weight: 700;  
text-decoration: none;  
line-height: 1em;  
}  
  
.brand a.logo span {  
font-size: 30px;  
color: #fff;  
transform: translateX(-5px);  
display: inline-block;  
}  
  
.brand .heading {  
position: absolute;  
top: 50%;  
left: 50%;  
transform: translate(-50%, -50%);  
text-align: center;  
transition: all 0.6s;  
}  
  
.brand .heading.active {
```

```
top: 100px;  
left: 100px;  
width: 77%;  
transform: translate(0);  
}  
  
.brand .heading h2 img {  
height: 100px;  
width: 100px;  
margin-bottom: 1rem;  
}  
  
.brand .heading h2 {  
font-size: 3rem;  
font-weight: 700;  
text-transform: uppercase;  
margin-bottom: 0;  
}  
  
.brand .heading p {  
font-size: 1.5rem;  
font-weight: 300;  
text-transform: uppercase;  
letter-spacing: 2px;
```

123

```
white-space: 4px;  
font-family: "Raleway", sans-serif;  
}  
  
.brand .success-msg {  
  
width: 100%;  
text-align: center;  
position: absolute;  
top: 50%;  
left: 50%;  
transform: translate(-50%, -50%);  
margin-top: 60px;  
}  
  
.brand .success-msg p {  
  
font-size: 25px;  
font-weight: 400;  
font-family: "Raleway", sans-serif;  
}  
  
.brand .success-msg a {  
  
font-size: 12px;  
text-transform: uppercase;  
padding: 8px 30px;
```

```
background: #f95959;  
text-decoration: none;  
color: #fff;  
border-radius: 30px;  
}  
  
.brand .success-msg p,  
.brand .success-msg a {  
transition: all 0.9s;  
transform: translateY(20px);  
opacity: 0;  
}  
  
.brand .success-msg p.active,  
.brand .success-msg a.active {  
transform: translateY(0);  
opacity: 1;  
}  
  
.form {  
position: relative;  
}  
  
.form .form-peice {
```

125

```
background: #fff;  
min-height: 480px;  
margin-top: 30px;  
box-shadow: 3px 3px 10px rgba(0, 0, 0, 0.2);  
color: #bbbbbb;  
padding: 30px 0 60px;  
transition: all 0.9s cubic-bezier(1, -0.375, 0.285, 0.995);  
position: absolute;  
top: 0;  
left: -30%;  
width: 130%;  
overflow: hidden;  
}  
  
.form .form-peice.switched {  
transform: translateX(-100%);  
width: 100%;  
left: 0;  
}  
  
.form form {  
padding: 0 40px;  
margin: 0;
```

```
width: 70%;  
  
position: absolute;  
  
top: 50%;  
  
left: 60%;  
  
transform: translate(-50%, -50%);  
}  
  
.form form .form-group {  
  
margin-bottom: 5px;  
  
position: relative;  
}  
  
.form form .form-group.hasError input {  
  
border-color: #f95959 !important;  
}  
  
.form form .form-group.hasError label {  
  
color: #f95959 !important;  
}  
  
.form form label {  
  
font-size: 12px;  
  
font-weight: 400;  
  
text-transform: uppercase;  
  
font-family: "Montserrat", sans-serif;
```

```
transform: translateY(40px);

transition: all 0.4s;

cursor: text;

z-index: -1;

}

.form form label.active {

transform: translateY(10px);

font-size: 10px;

}

.form form label.fontSwitch {

font-family: "Raleway", sans-serif !important;

font-weight: 600;

}

.form form input:not([type="submit"]) {

background: none;

outline: none;

border: none;

display: block;

padding: 10px 0;

width: 100%;

border-bottom: 1px solid #eee;
```

```
color: #444;  
  
font-size: 15px;  
  
font-family: "Montserrat", sans-serif;  
  
z-index: 1;  
  
}  
  
.form form input:not([type="submit"]).hasError {  
  
border-color: #f95959;  
  
}  
  
.form form span.error {  
  
color: #f95959;  
  
font-family: "Montserrat", sans-serif;  
  
font-size: 12px;  
  
position: absolute;  
  
bottom: -20px;  
  
right: 0;  
  
display: none;  
  
}  
  
.form form input[type="password"] {  
  
color: #f95959;  
  
}  
  
.form form .CTA {
```

```
margin-top: 30px;  
}  
  
.form form .CTA input {  
  
    font-size: 12px;  
  
    text-transform: uppercase;  
  
    padding: 5px 30px;  
  
    background: #f95959;  
  
    color: #fff;  
  
    border-radius: 30px;  
  
    margin-right: 20px;  
  
    border: none;  
  
    font-family: "Montserrat", sans-serif;  
}  
  
.form form .CTA a.switch {  
  
    font-size: 13px;  
  
    font-weight: 400;  
  
    font-family: "Montserrat", sans-serif;  
  
    color: #bbbbbb;  
  
    text-decoration: underline;  
  
    transition: all 0.3s;  
}
```

```
.form form .CTA a.switch:hover {  
    color: #f95959;  
}  
  
.forgotpass {  
    font-size: 13px;  
    font-weight: 400;  
    font-family: "Montserrat", sans-serif;  
    color: #bbbbbb;  
    text-decoration: underline;  
    transition: all 0.3s;  
}  
  
.forgotpass:hover {  
    color: #f95959;  
}  
  
footer {  
    text-align: center;  
}  
footer p {
```

```
color: #777;  
}  
  
footer p a,  
footer p a:focus {  
    color: #b8b09f;  
    transition: all 0.3s;  
    text-decoration: none !important;  
}  
  
footer p a:hover,  
footer p a:focus:hover {  
    color: #f95959;  
}  
  
@media (max-width: 768px) {  
    .container {  
        overflow: hidden;  
    }  
  
    section#formHolder {  
        padding: 0;  
    }  
}
```

```
section#formHolder div.brand {  
    min-height: 200px !important;  
}  
  
section#formHolder div.brand.active {  
    min-height: 100vh !important;  
}  
  
section#formHolder div.brand .heading.active {  
    top: 200px;  
    left: 50%;  
    transform: translate(-50%, -50%);  
}  
  
section#formHolder div.brand .success-msg p {  
    font-size: 16px;  
}  
  
section#formHolder div.brand .success-msg a {  
    padding: 5px 30px;  
    font-size: 10px;  
}  
  
section#formHolder .form {  
    width: 80vw;  
    min-height: 500px;
```

```
margin-left: 10vw;  
}  
  
section#formHolder .form .form-peice {  
  
margin: 0;  
  
top: 0;  
  
left: 0;  
  
width: 100% !important;  
  
transition: all 0.5s ease-in-out;  
}  
  
section#formHolder .form .form-peice.switched {  
  
transform: translateY(-100%);  
  
width: 100%;  
  
left: 0;  
}  
  
section#formHolder .form .form-peice > form {  
  
width: 100% !important;  
  
padding: 60px;  
  
left: 50%;  
}  
}  
  
@media (max-width: 480px) {
```

```
section#formHolder .form {  
    width: 100vw;  
    margin-left: 0;  
}  
  
h2 {  
    font-size: 50px !important;  
}  
}  
  
img.logo{  
    height:150px;  
    width:150px;  
}
```

myGPAs.css

```
.body-home {  
    background-image: linear-gradient(315deg, #ffac81 0%, #ff928b 74%);  
}  
  
.body-gpa {  
    background-color: #fff;  
}
```

```
nav.navbar {  
    height: 10rem;  
}  
  
.navbar-brand img {  
    height: 5rem;  
    width: 5rem;  
    margin-right: 1rem;  
}  
  
.navbar-brand {  
    font-size: 2rem;  
    font-weight: bold;  
}  
  
ul.navbar-nav {  
    position: absolute;  
    right: 5rem;  
}  
  
li.nav-item {  
    font-size: 1.1rem;  
    margin-left: 1rem;  
}
```

```
.menus {  
background-color: #ea5c2b;  
color: #fff;  
border-style: solid;  
border-width: 1px;  
border-color: black;  
margin-bottom: 0.5rem;  
}  
.menus:hover {  
background-color: #3e7c17;  
}  
.credentials {  
width: 35%;  
margin: auto;  
margin-top: 2rem;  
background-color: #461111;  
color: #fff;  
text-align: center;  
height: 10rem;  
border-radius: 25px;  
}
```

```
.details {  
    width: 75%;  
    margin: auto;  
}  
  
.credits-grades {  
    background-color: #ae4ccf;  
    height: 11rem;  
    width: 25%;  
    border-radius: 25px;  
    margin-left: 3rem;  
    text-align: left;  
    color: #fff;  
    margin-top: 3rem;  
}  
  
p.name {  
    font-size: 1.5rem;  
}  
  
p.reg {  
    font-size: 1.5rem;  
}
```

```
p.result {  
    margin-top: 1rem;  
    font-size: 2.5rem;  
    text-align: center;  
}
```

error.css

```
/*===== 404 page =====*/  
  
.page_404 {  
    padding: 40px 0;  
    background: #fff;  
    font-family: "Arvo", serif;  
}  
  
.page_404 img {  
    width: 100%;  
}
```

```
.four_zero_four_bg {  
background-image:  
url(https://cdn.dribbble.com/users/722246/screenshots/3066818/404-page.gif);  
height: 650px;  
background-position: center;  
}  
  
.four_zero_four_bg h1 {  
font-size: 80px;  
}  
  
.four_zero_four_bg h3 {  
font-size: 80px;  
}  
  
.link_404 {  
color: #fff !important;  
padding: 10px 20px;  
background: #39ac31;  
margin: 20px 0;  
display: inline-block;  
}
```

```
.contant_box_404 {  
    margin-top: -50px;  
}
```

JS Files

login.js

```
/*global $, document, window, setTimeout, navigator, console, location*/

$(document).ready(function () {

    "use strict";

    var usernameError = true,
        emailError = true,
        passwordError = true,
        passConfirm = true,
        rnoError = true;

    // Detect browser for css purpose

    if (navigator.userAgent.toLowerCase().indexOf("firefox") > -1) {
        $(".form form label").addClass("fontSwitch");
    }

    // Label effect
```

```
$( "input" ).focus( function () {  
    $( this ).siblings( "label" ).addClass( "active" );  
}  
  
// Form validation  
  
$( "input" ).keyup( function () {  
    // User Name  
  
    if ( $( this ).hasClass( "name" ) ) {  
        if ( $( this ).val().length === 0 ) {  
            $( this )  
                .siblings( "span.error" )  
                .text( "Please type your full name" )  
                .fadeIn()  
                .parent( ".form-group" )  
                .addClass( "hasError" );  
            usernameError = true;  
        } else if ( $( this ).val().length > 1 && $( this ).val().length < 6 ) {  
            $( this )  
                .siblings( "span.error" )  
                .text( "Please type at least 6 characters" )  
        }  
    }  
}
```

```
.fadeIn()  
  
.parent(".form-group")  
  
.addClass("hasError");  
  
usernameError = true;  
  
} else {  
  
$(this)  
  
.siblings(".error")  
  
.text("")  
  
.fadeOut()  
  
.parent(".form-group")  
  
.removeClass("hasError");  
  
usernameError = false;  
  
}  
  
}  
  
// Email  
  
if ($(this).hasClass("email")) {  
  
if ($(this).val().length == "") {  
  
$(this)  
  
.siblings("span.error")  
  
.text("Please type your email address")  
  
.fadeIn()
```

```
.parent(".form-group")
.addClass("hasError");

emailError = true;

} else {
$(this)
.siblings(".error")
.text("")
.fadeOut()
.parent(".form-group")
.removeClass("hasError");
emailError = false;
}

}

//registration number

if ($(this).hasClass("rno")) {
if ($(this).val().length === 0) {
$(this)
.siblings("span.error")
.text("Please type your registration number")
.fadeIn()
.parent(".form-group")
```

```
.addClass("hasError");

rnoError = true;

} else if ($(this).val().length != 10) {

$(this)

.siblings("span.error")

.text("Registration Number should have 10 digits")

.fadeIn()

.parent(".form-group")

.addClass("hasError");

rnoError = true;

} else {

$(this)

.siblings(".error")

.text("")

.fadeOut()

.parent(".form-group")

.removeClass("hasError");

rnoError = false;

}

}

// PassWord
```

```
if ($(this).hasClass("pass")) {  
    if ($(this).val().length < 8) {  
        $(this)  
            .siblings("span.error")  
            .text("Please type at least 8 characters")  
            .fadeIn()  
            .parent(".form-group")  
            .addClass("hasError");  
        passwordError = true;  
    } else {  
        $(this)  
            .siblings(".error")  
            .text("")  
            .fadeOut()  
            .parent(".form-group")  
            .removeClass("hasError");  
        passwordError = false;  
    }  
}  
  
// PassWord confirmation
```

```
if ($.pass).val() != $.passConfirm.val()) {  
    $.passConfirm  
        .siblings(".error")  
        .text("Passwords don't match")  
        .fadeIn()  
        .parent(".form-group")  
        .addClass("hasError");  
  
    passConfirm = true;  
}  
else {  
    $.passConfirm  
        .siblings(".error")  
        .text("")  
        .fadeOut()  
        .parent(".form-group")  
        .removeClass("hasError");  
  
    passConfirm = false;  
}  
  
// label effect  
  
if (this).val().length > 0 {  
    $(this).siblings("label").addClass("active");  
}
```

```
    } else {  
        $(this).siblings("label").removeClass("active");  
    }  
});  
  
// form switch  
  
$("a.switch").click(function (e) {  
    $(this).toggleClass("active");  
    e.preventDefault();  
  
    if ($("#a.switch").hasClass("active")) {  
        $(this)  
            .parents(".form-peice")  
            .addClass("switched")  
            .siblings(".form-peice")  
            .removeClass("switched");  
    } else {  
        $(this)  
            .parents(".form-peice")  
            .removeClass("switched")  
            .siblings(".form-peice")  
    }  
});
```

```
.addClass("switched");

}

});

// Form submit

$("form.signup-form").submit(function (event) {

if (

usernameError == true ||

emailError == true ||

passwordError == true ||

passConfirm == true ||

rnoError == true

) {

event.preventDefault();

console.log("Not validated");

$(".name, .email, .pass, .passConfirm, .rno").blur();

} else {

$("#form-sign-up").submit();

}

});
```

```
// Reload page

$("a.profile").on("click", function () {

    location.reload(true);

});

});
```

Cgpa.js

```
const selectBar = document.querySelector(".dropdown-subjects");

var gpaBox = document.querySelector(".gpa-val-box");

var gpaBoxSave = document.querySelector("#gpa-div-save");

var gpaBoxClose = document.querySelector("#gpa-div-close");

var formSaveName = document.querySelector("#input-save-name");

var inputSaveName = document.querySelector("#input-save");

selectBar.addEventListener("change", function () {

    console.log("Changed Occured");

    isSaveDialog = true;

    selectBar.form.submit();

});

gpaBoxSave.addEventListener("click", function () {
```

```

if (formSaveName.style.display != "inline-block") {
    formSaveName.style.display = "inline-block";
    gpaBox.style.height = "12rem";
} else {
    formSaveName.submit();
}
});

gpaBoxClose.addEventListener("click", function () {
    gpaBox.style.display = "none";
});

```

GpaJS.js

```

const selectBar = document.querySelector(".dropdown-subjects");

var gpaBox = document.querySelector(".gpa-val-box");
var gpaBoxSave = document.querySelector("#gpa-div-save");
var gpaBoxClose = document.querySelector("#gpa-div-close");
var formSaveName = document.querySelector("#input-save-name");
var inputSaveName = document.querySelector("#input-save");

selectBar.addEventListener("change", function () {

```

```
console.log("Changed Occured");

isSaveDialog = true;

selectBar.form.submit();

});

gpaBoxSave.addEventListener("click", function () {

if (formSaveName.style.display != "inline-block") {

    formSaveName.style.display = "inline-block";

    gpaBox.style.height = "12rem";

} else {

    formSaveName.submit();

}

});

gpaBoxClose.addEventListener("click", function () {

    gpaBox.style.display = "none";

});
```

forgotPassword.jsp

```

$(document).ready(function (){

    $(".proceed").click(function (event) {

        console.log("Hi submitted");

        const email = $('.email').val();

        const mailSent = $('.message-success');

        const notSent = $('.message-failure');

        const data = {"email" : email};

        console.log(email);

        $.ajax({


            url: "/CGPACalculator-1.0-SNAPSHOT/forgotpass",

            type: "POST",

            data: "email=" + email,

            success: function (response) {

                if(response === "1"){

                    notSent.css("display","none");

                    mailSent.css("display","block");

                    mailSent.text("An email has been sent successfully to reset password");

                }else{

                    mailSent.css("display","none");

                    notSent.css("display","block");

                    notSent.text("User does not exists , kindly register first ");

                }

            }

        });

    });

});

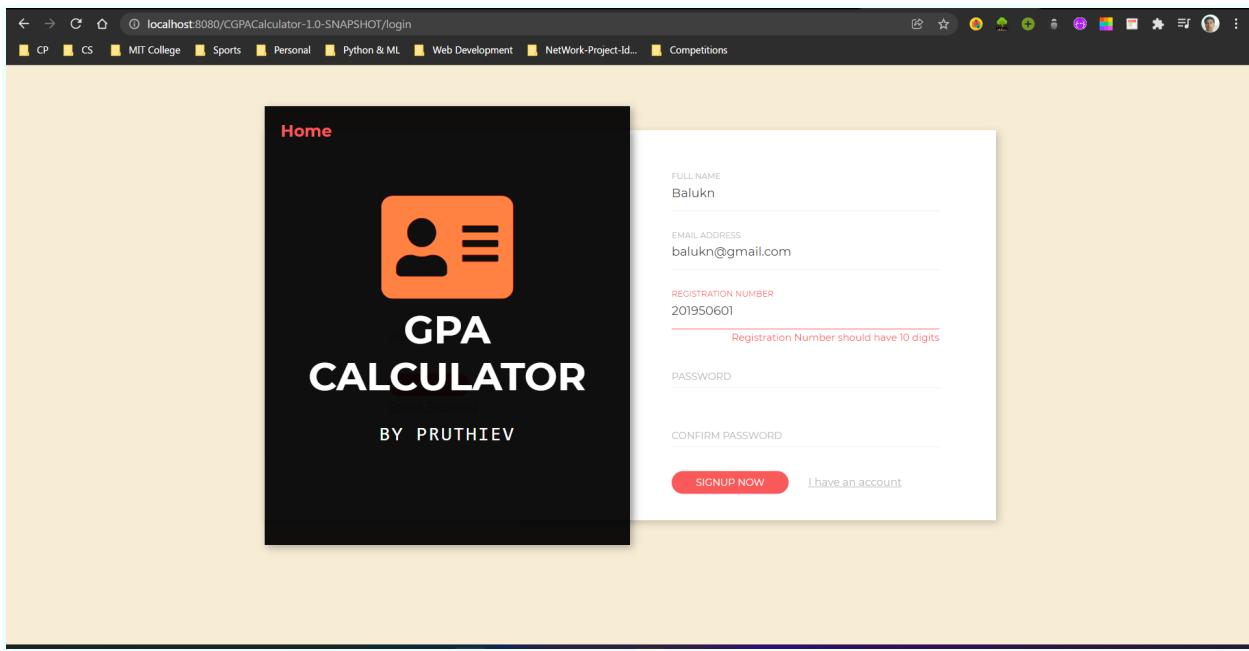
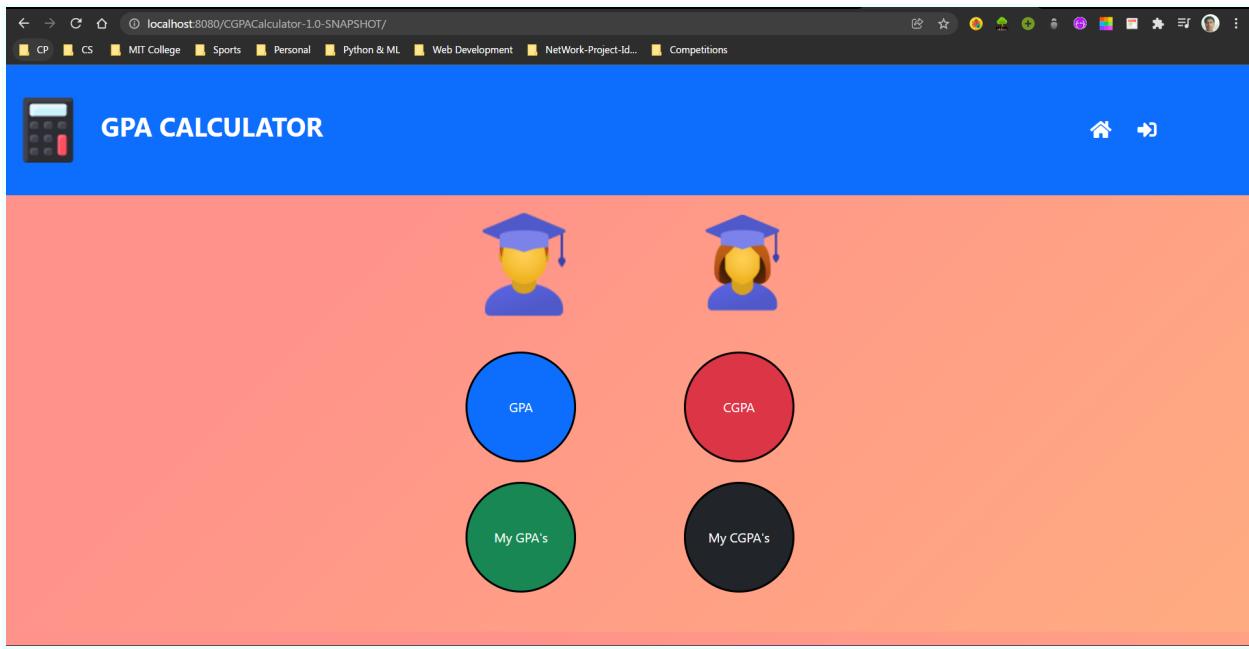
```

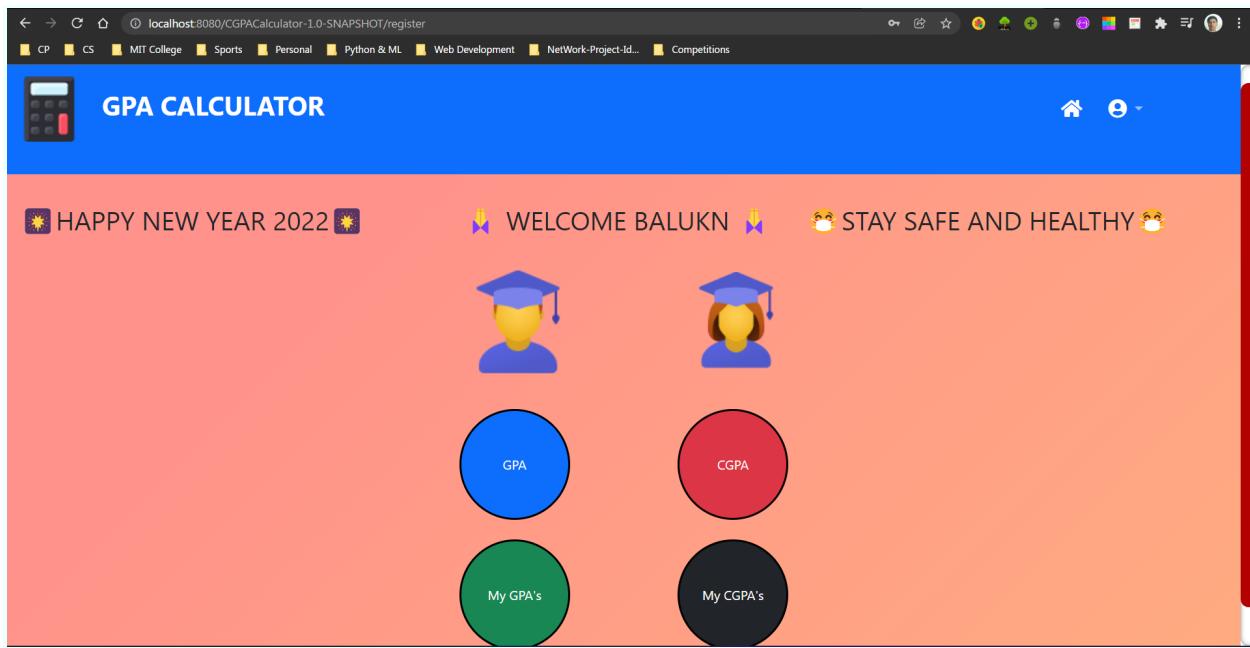
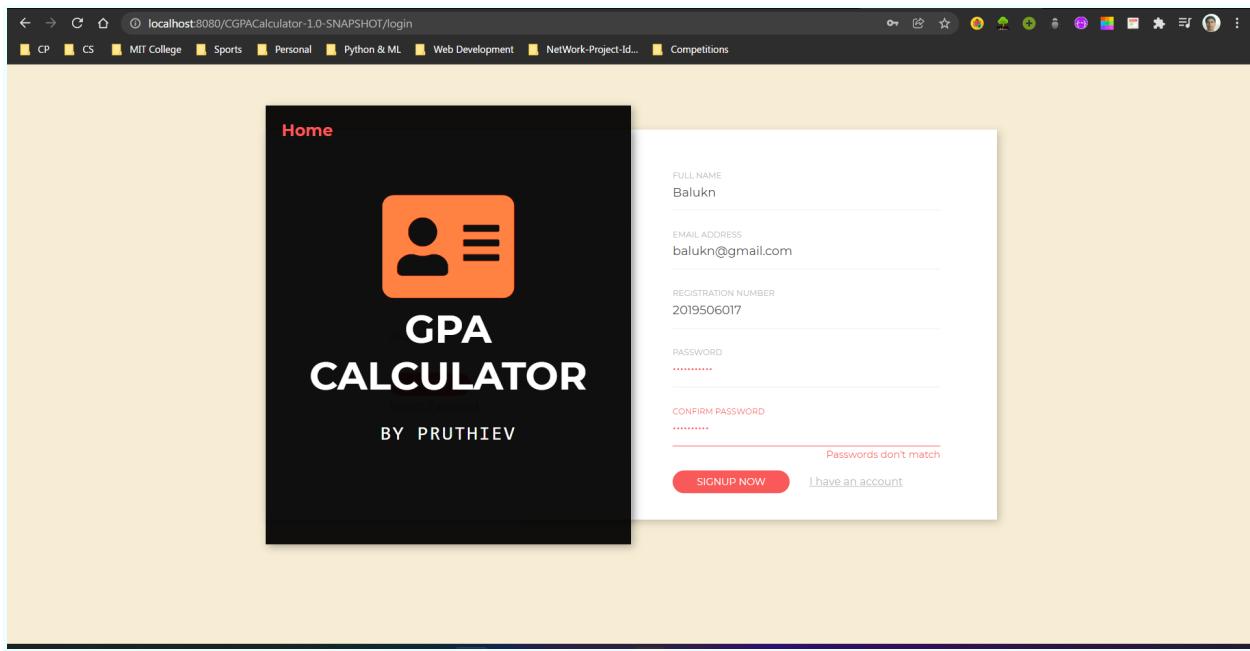
```
    }  
    },  
});  
});  
});
```

The ajax is implemented to send the email for password reset without refreshing the page.

TESTING :

SignUp Success





Success (2 rows) 0.2 s 4:53 PM

Explore	SQL	Data	Chart	Export	
Student_Reg_No	Student_Name	Student_Email	Student_Password		
2019506017	Balukn	balukn@gmail.com	Balukn@2001		
2019506067	Pruthiev	aspruthiev@gmail.com	Saro@2001		

SignUp Failure

→ Already present reg no is provided.

localhost:8080/CGPACalculator-1.0-SNAPSHOT/login

CP CS MIT College Sports Personal Python & ML Web Development NetWork-Project-Id... Competitions

Home

GPA CALCULATOR
BY PRUTHIEV

FULL NAME
Meyyappan

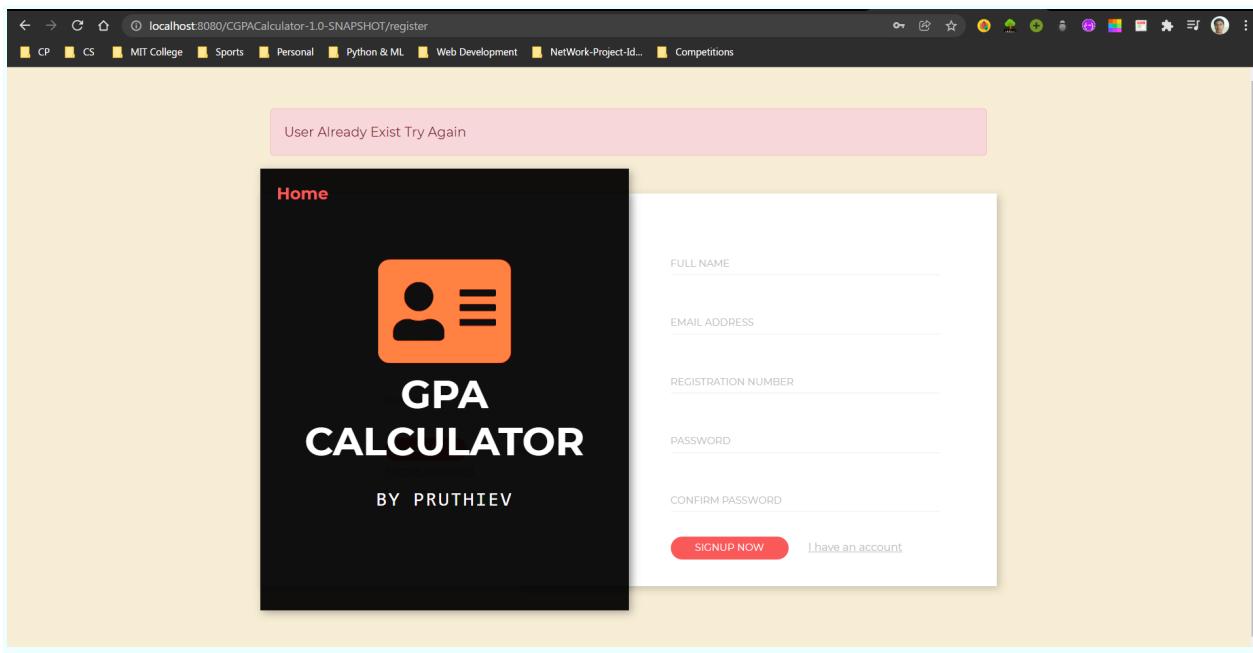
EMAIL ADDRESS
Meyyappan@gmail.com

REGISTRATION NUMBER
2019506017

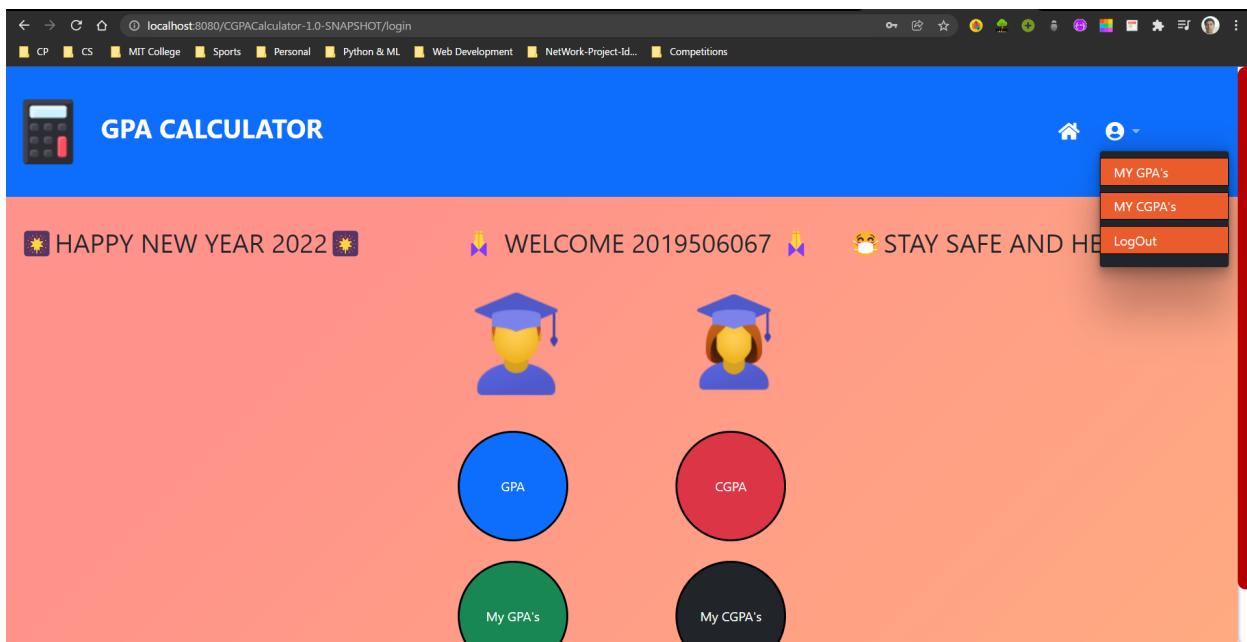
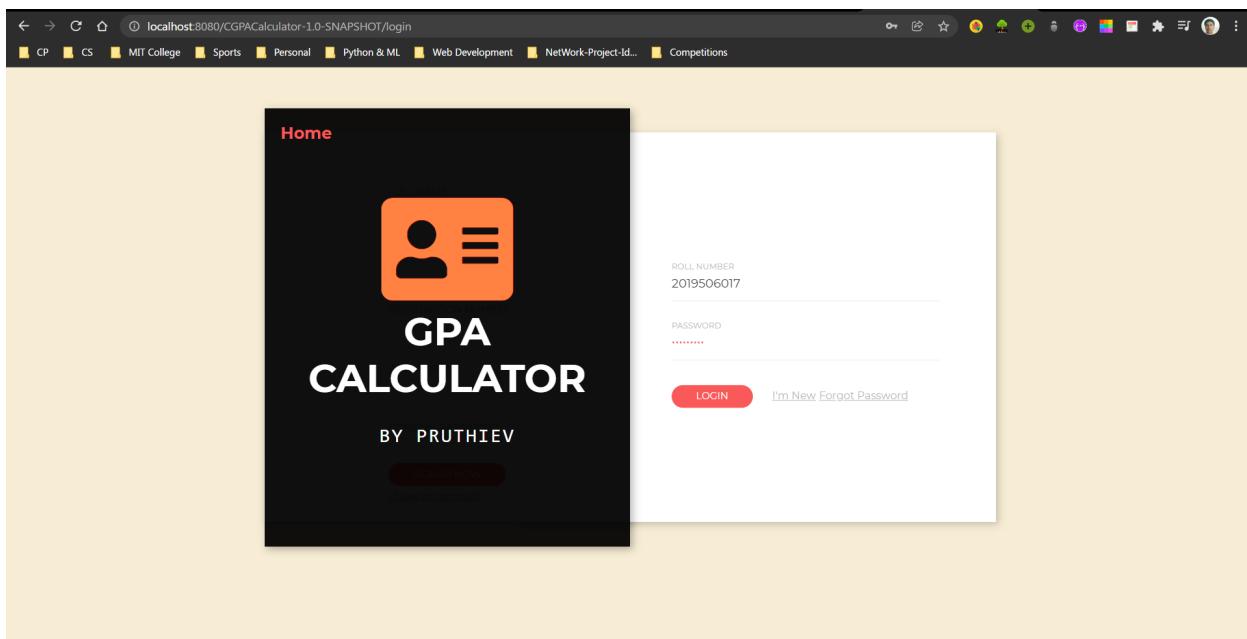
PASSWORD
.....

CONFIRM PASSWORD
.....

SIGNUP NOW I have an account

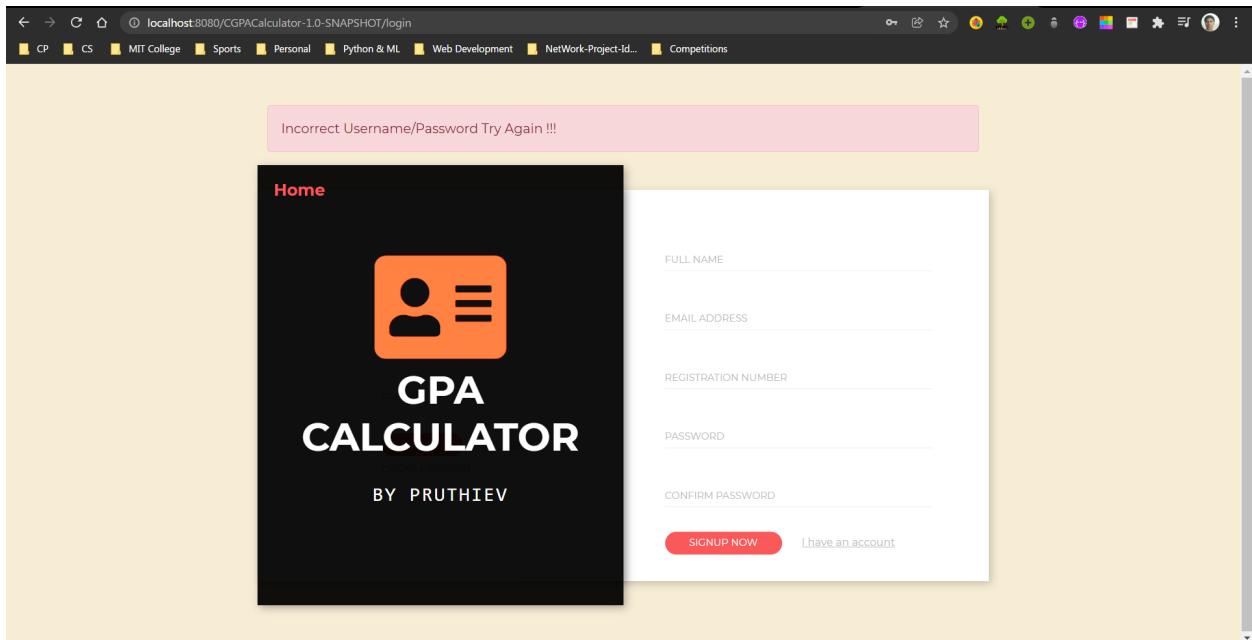
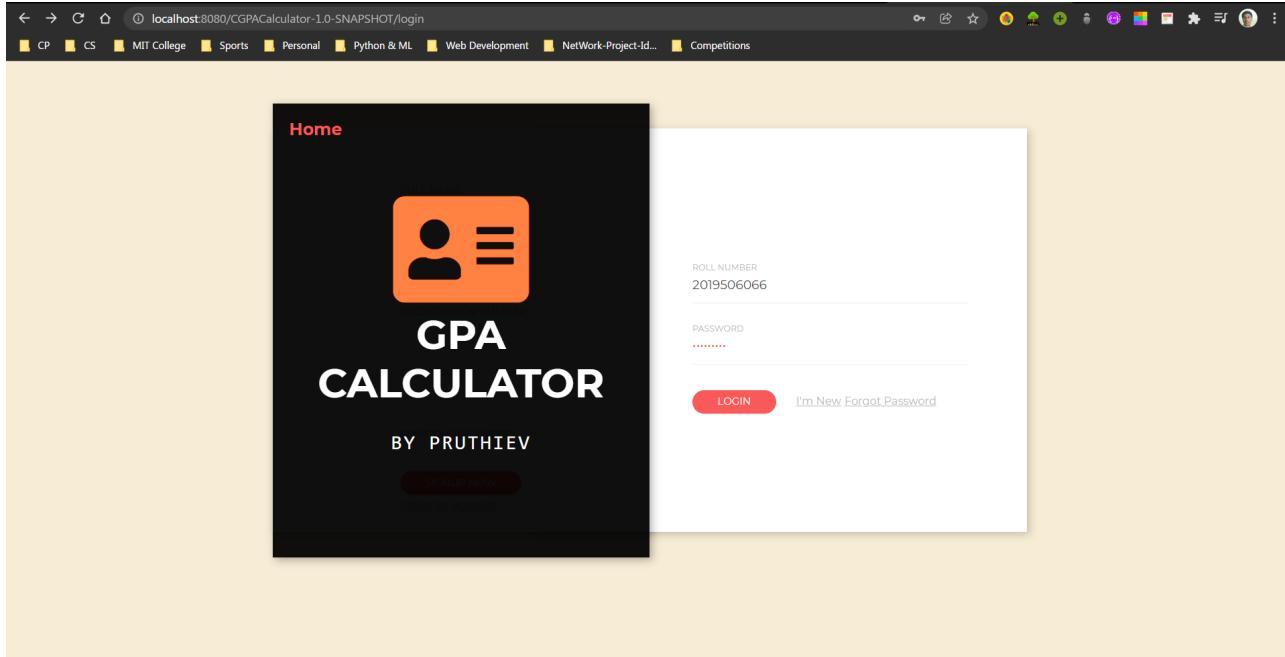


Login Success



Login Failure

→ Providing incorrect username



GPA Calculation

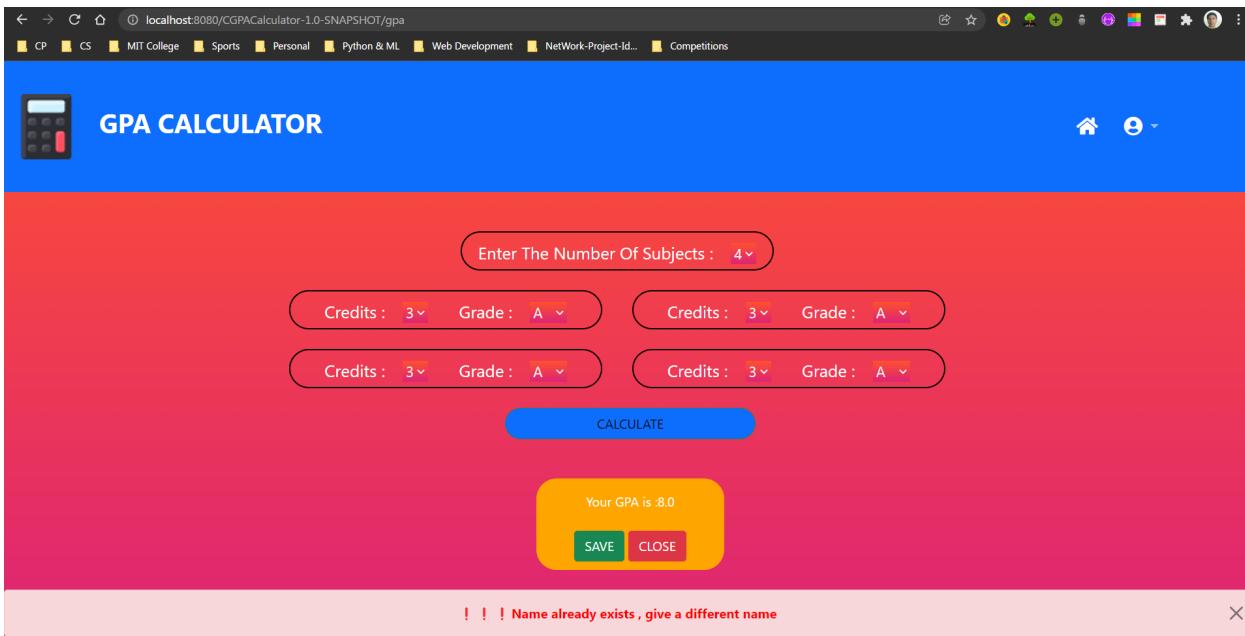
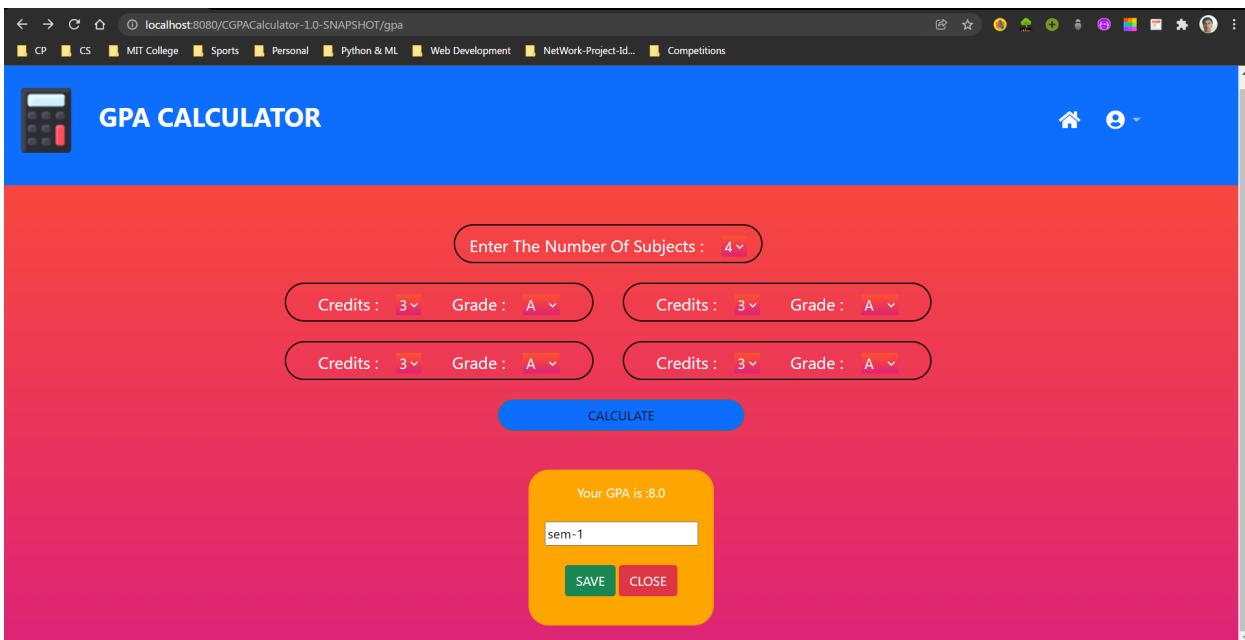
The screenshot shows a GPA calculator interface. At the top, there's a navigation bar with various links like CP, CS, MIT College, Sports, Personal, Python & ML, Web Development, NetWork-Project-Id..., and Competitions. Below the navigation is a blue header bar with a calculator icon and the text "GPA CALCULATOR". The main body has a red background. It contains four input fields arranged in a 2x2 grid, each with "Credits: 3" and "Grade: A". Above these fields is a text input box containing "Enter The Number Of Subjects : 4". Below the input fields is a blue "CALCULATE" button. To the right of the calculate button is a yellow message box with the text "Your GPA is 8.0" and two buttons: "SAVE" (green) and "CLOSE" (red).

Already saves GPAs

The screenshot shows a database interface. At the top, it says "Success (1 row)" with a timer icon and "0.2 s", and the time "5:10 PM" on the right. Below is a toolbar with tabs: Explore, SQL, Data (which is selected), Chart, Export, and a link icon. A table below the toolbar shows student data:

Student_Reg_No	Name	GPA
2019506067	sem-1	8

→ Saving with the same name as sem-1



→ Saving with a unique name.

The screenshot shows a web-based GPA calculator application. At the top, there is a navigation bar with various links like CP, CS, MIT College, Sports, Personal, Python & ML, Web Development, Network-Project-Id., and Competitions. Below the navigation bar, the title "GPA CALCULATOR" is displayed next to a calculator icon. A dropdown menu shows "Enter The Number Of Subjects : 4". There are four input fields for subjects, each containing "Credits : 3" and "Grade : A". A blue "CALCULATE" button is positioned below these fields. A yellow modal dialog box is open, displaying "Your GPA is :8.0" and a text input field containing "sem-2". At the bottom of the modal are two buttons: "SAVE" (green) and "CLOSE" (red).

The screenshot shows the same GPA calculator application after data has been saved. The main area displays two purple rounded rectangular boxes. The first box contains "Name : sem-1" and "gpa : 8.0". The second box contains "Name : sem-2" and "gpa : 8.0". The background has a gradient from orange at the bottom to blue at the top.

Success (2 rows)  0.2 s 5:14 PM

	Explore	SQL	Data	Chart	Export	
Student_Reg_No	Name	GPA				
2019506067	sem-1	8				
2019506067	sem-2	8				

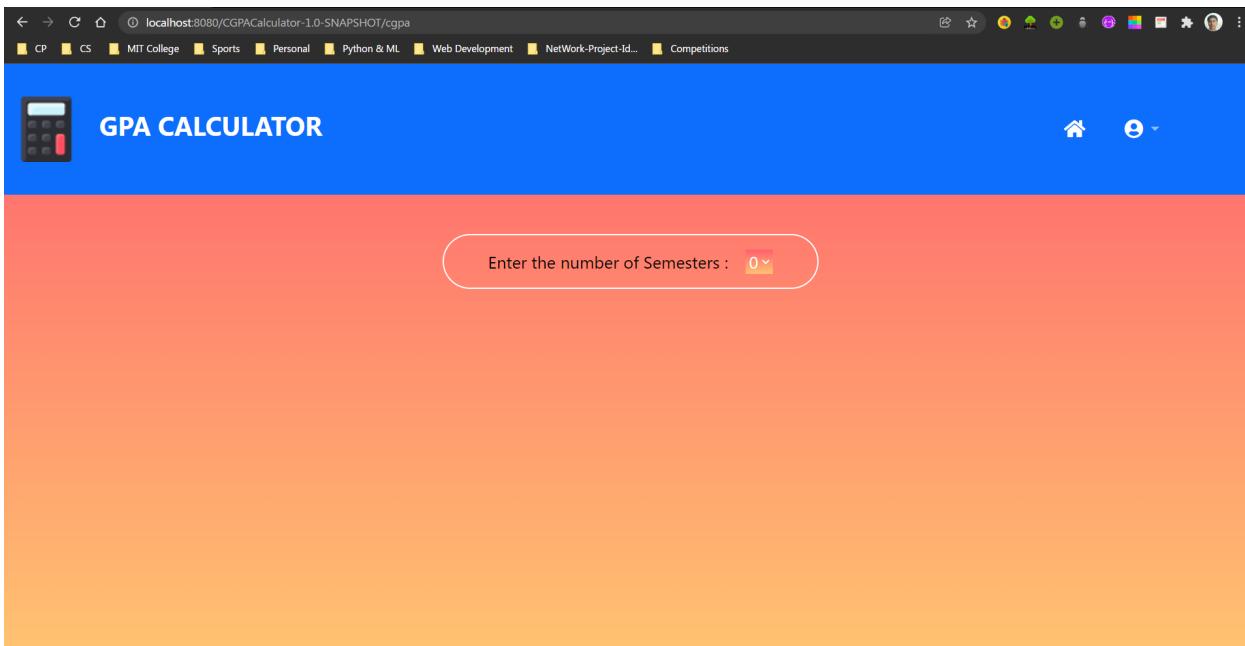
CGPA Calculation

localhost:8080/CGPACalculator-1.0-SNAPSHOT/cgpa

CP CS MIT College Sports Personal Python & ML Web Development NetWork-Project-Id... Competitions

GPA CALCULATOR

Enter the number of Semesters :



The screenshot shows a GPA calculator application running on a local host. The interface has a blue header with the title "GPA CALCULATOR" and a calculator icon. Below the header, there is a dropdown menu set to "3". There are two sets of input fields for "Total Credits" and "CGPA". The first set shows "Total Credits: 23" and "CGPA: 9.19". The second set shows "Total Credits: 21" and "CGPA: 9.89". Below these is another set of input fields showing "Total Credits: 20" and "CGPA: 8.78". A large blue "CALCULATE" button is centered below the input fields. A modal window is open, displaying the message "Your GPA is : 9.29" with "SAVE" and "CLOSE" buttons.

→ Already saves CGPAs

The screenshot shows a database table with the following data:

Student_Reg_No	Name	CGPA
2019506067	year-1	9.15

Success (1 row) 0.2 s 5:17 PM

Explore SQL Data Chart Export ⚙

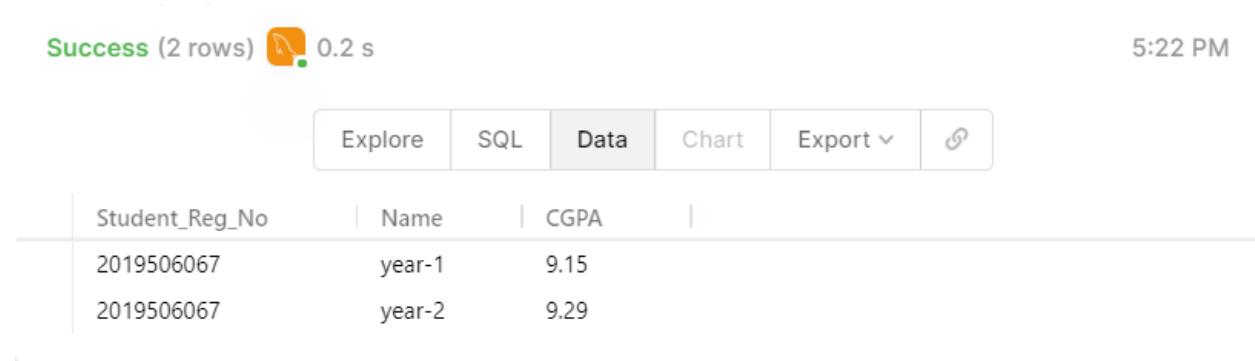
→ Providing the same name to save this

The screenshot shows a GPA calculator interface. At the top, there is a navigation bar with various links like CP, CS, MIT College, Sports, Personal, Python & ML, Web Development, Network-Project-Id..., and Competitions. Below the navigation bar is a blue header with the title "GPA CALCULATOR". In the center, there is a text input field with the placeholder "Enter the number of Semesters : 3". Below this, there are two sets of input fields: "Total Credits : 23" and "CGPA : 9.19" on the left, and "Total Credits : 21" and "CGPA : 9.89" on the right. A large blue "CALCULATE" button is centered between the two sets of inputs. A yellow modal window is displayed, stating "Your GPA is : 9.29" and containing a text input field with "year-1" and two buttons labeled "SAVE" and "CLOSE".

This screenshot is identical to the one above, showing the GPA calculator interface with the same inputs and calculate button. However, a pink horizontal bar at the bottom of the page displays the error message "Name already exists , give a different name".

The screenshot shows a GPA calculator interface. At the top, a text input field says "Enter the number of Semesters : 3". Below it are three separate input fields, each consisting of two text boxes: "Total Credits" and "CGPA". The first field has values "23" and "9.19". The second field has values "21" and "9.89". The third field has values "20" and "8.78". A blue "CALCULATE" button is positioned below these fields. A yellow modal window is open, displaying the message "Your GPA is .9.29" above a text input field containing "year-2". At the bottom of the modal are two buttons: "SAVE" (green) and "CLOSE" (red).

The screenshot shows a GPA calculator application running in a browser. The title bar indicates the URL is "localhost:8080/CGPACalculator-1.0-SNAPSHOT/my-cgpa". The page header includes a calculator icon and the text "GPA CALCULATOR". On the left, there are two purple rectangular cards containing student information. The top card shows "Name : year-1" and "gpa : 9.15". The bottom card shows "Name : year-2" and "gpa : 9.29". The browser's address bar and various icons are visible at the top.



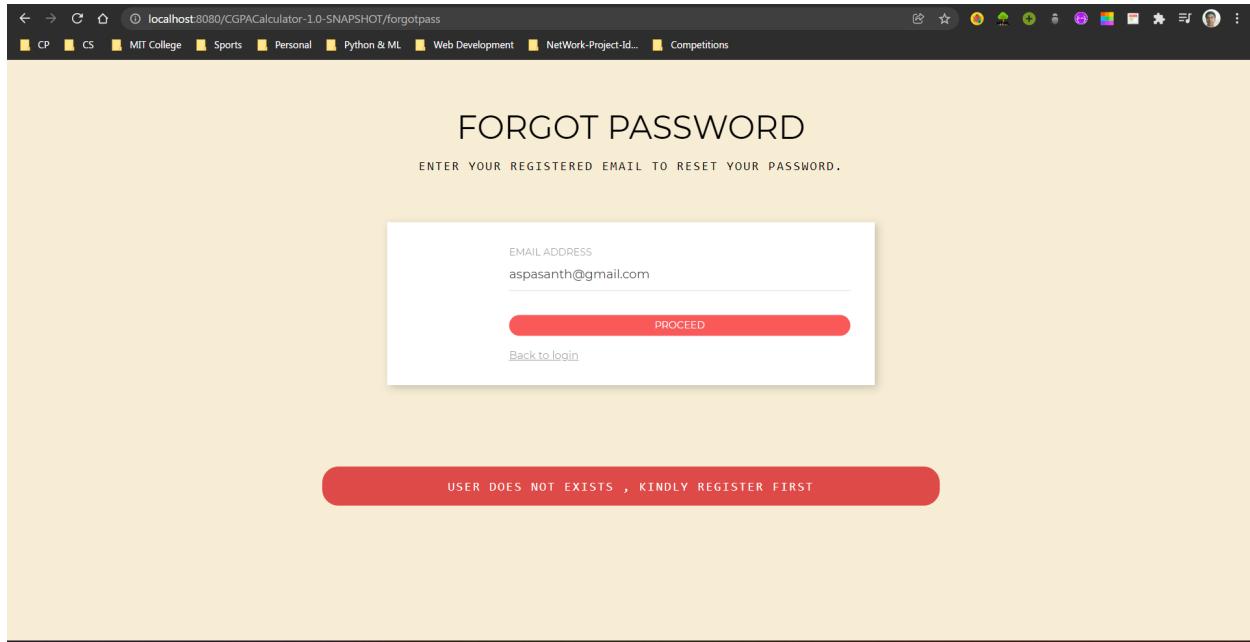
Success (2 rows) 0.2 s 5:22 PM

The screenshot shows a database query result with the following data:

Student_Reg_No	Name	CGPA
2019506067	year-1	9.15
2019506067	year-2	9.29

Forgot Password

→ Entering the email which hasn't registered yet.



localhost:8080/CGPACalculator-1.0-SNAPSHOT/forgotpass

FORGOT PASSWORD

ENTER YOUR REGISTERED EMAIL TO RESET YOUR PASSWORD.

EMAIL ADDRESS
aspasanth@gmail.com

PROCEED

[Back to login](#)

USER DOES NOT EXISTS , KINDLY REGISTER FIRST

→ Entering a registered email Address.

Success (2 rows)  0.1 s

6:50 PM

Student_Reg_No	Student_Name	Student_Email	Student_Password
2019506017	Balukn	balukn@gmail.com	Balukn@2001
2019506067	Pruthiev	aspruthiev@gmail.com	Saro@2001

localhost:8080/CGPACalculator-1.0-SNAPSHOT/forgotpass

CP CS MIT College Sports Personal Python & ML Web Development NetWork-Project-Id... Competitions

FORGOT PASSWORD

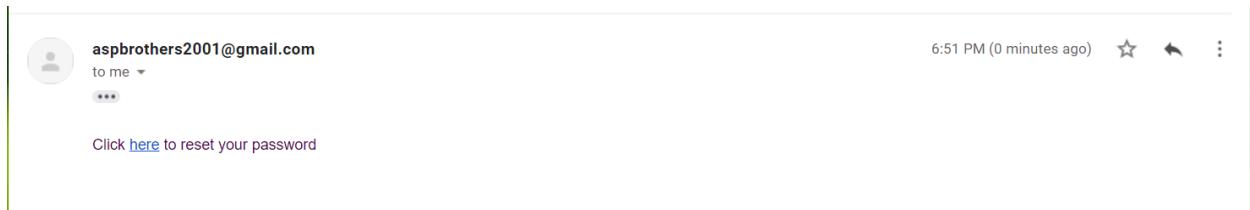
ENTER YOUR REGISTERED EMAIL TO RESET YOUR PASSWORD.

EMAIL ADDRESS
aspruthiev@gmail.com

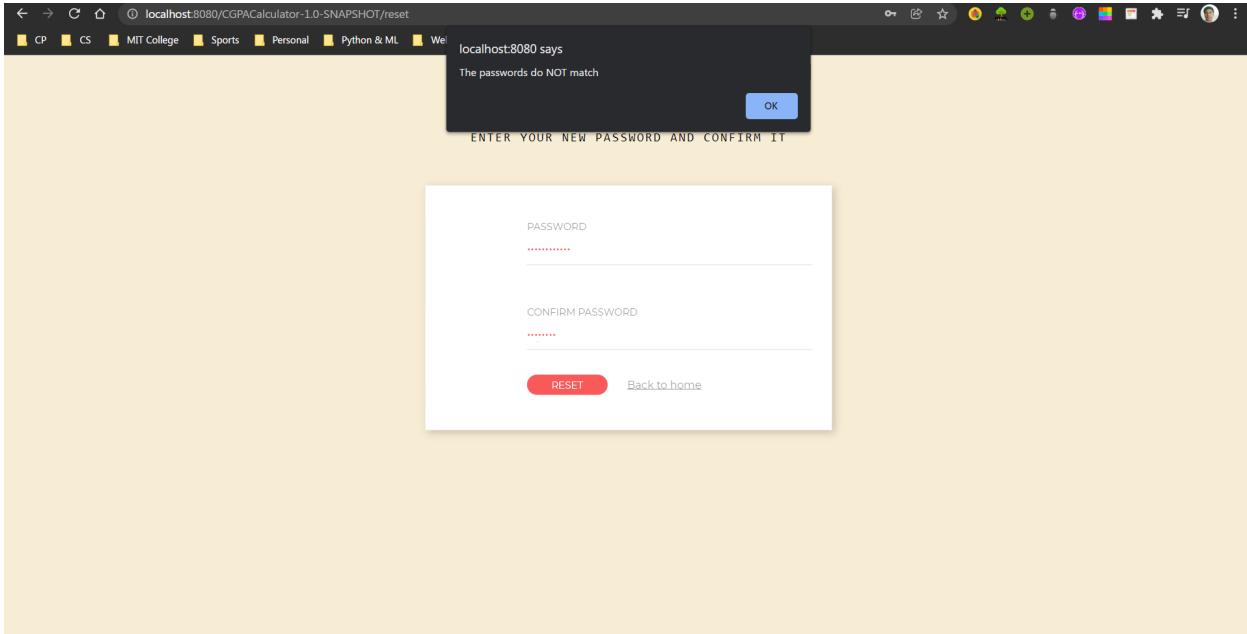
[PROCEED](#)

[Back to login](#)

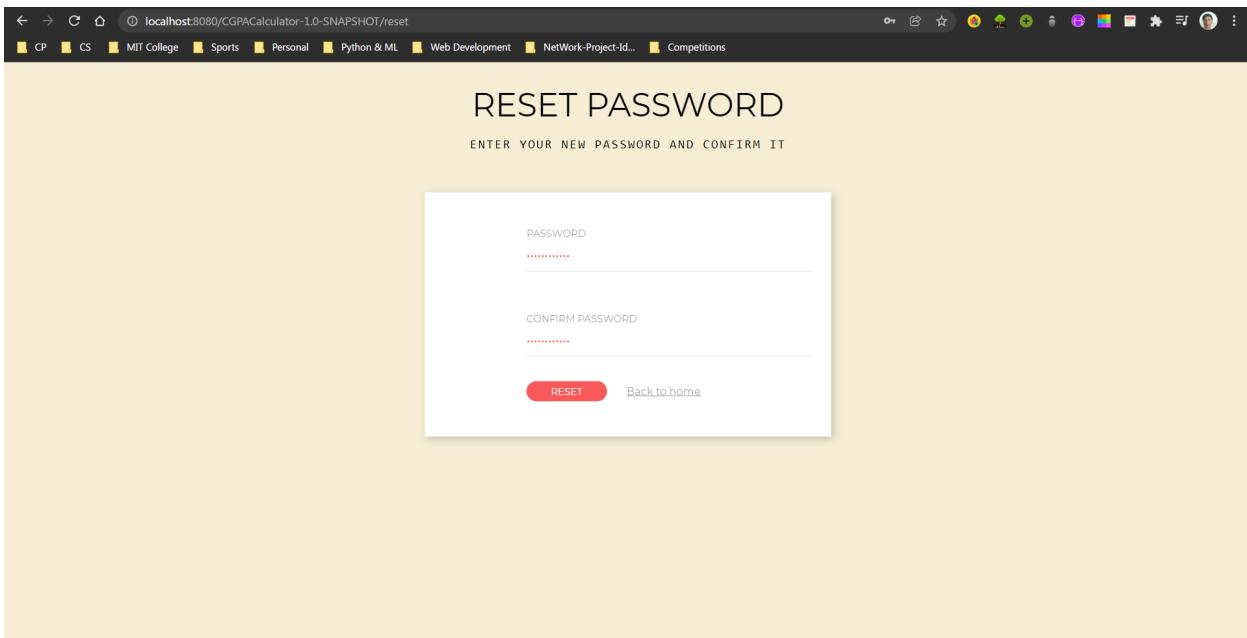
AN EMAIL HAS BEEN SENT SUCCESSFULLY TO RESET PASSWORD



→ Enter different password and confirm password values.



→ Enter the same password and confirm password values.



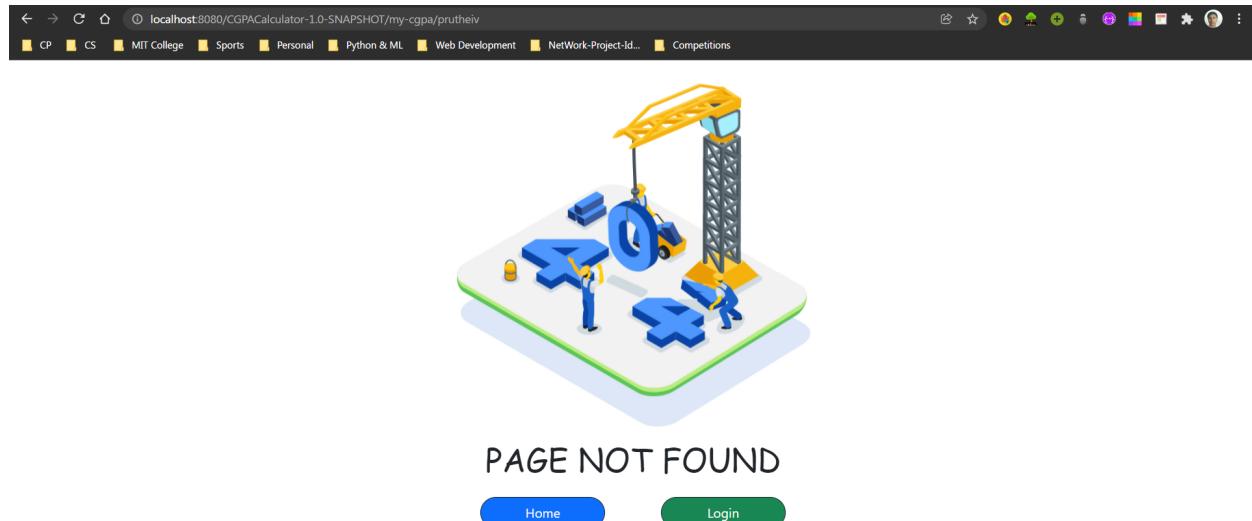
→ The password is updated

Success (2 rows) 0.1 s 6:55 PM

Student_Reg_No	Student_Name	Student_Email	Student_Password
2019506017	Balukn	balukn@gmail.com	Balukn@2001
2019506067	Pruthiev	aspruthiev@gmail.com	Asp@20012004

404 PAGE ERROR

→ If the user visits unknown url the following 404 age error is rendered



DEPLOYMENT :

- The web application wasn't able to deploy on any cloud platform as most of it asked for credit card for database service
- The deployment part is the future work of the project.

SUMMARY :

- The inheritance implementation is available [here](#) , [here](#)
- The interface implementation is available [here](#).
- The exception is handled in many files, one such is available [here](#).
- The threading is available [here](#).
- The ajax implementation is available [here](#).
- The servlet implementation starts from [here](#).
- The jsp files starts from [here](#)
- The JDBC methods are [here](#)
- The jQuery and JavaScript implementation are [here](#)