MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI

GOVERNMENT POLYTECHNIC KARAD

THIRD YEAR DIPLOMA COMPUTER ENGINEERING (I-SCHEME)

PART [B]

MICRO-PROJECT REPORT

"COLLEGE MANAGEMENT SYSTEM"

UNDER THE SUBJECT

ADVANCED JAVA PROGRAMMING (22517)

SUBMITTED BY

Sr.no	Roll No	Enrollment No	Name of Team Member
1.	2251	2100100053	Pratik Pramod Shejwal
2.	2254	2100100056	Shravani Bharat Mahajan
3.	2260	2100100063	Riya Sunil Kharade

UNDER THE GUIDANCE

Prof. Emekar S.P.

(DEPARTMENT OF COMPUTER ENGINEERING)

2023-24

MAHARASHTRA STATE BOARD OF TECHNICAL EDUCATION, MUMBAI.

Certificate of completion

Of Micro-project Assessment at the end of Semester

This is to certify that,

Sr.no	Roll No	Enrollment No	Name of Team Member
1.	2251	2100100053	Pratik Pramod Shejwal
2.	2254	2100100056	Shravani Bharat Mahajan
3.	2260	2100100063	Riya Sunil Kharade

Has successfully completed **"College Management System"** Micro-project of the Fifth semester Diploma in Computer Engineering of subject Advanced Java Programming (22517) from Government Polytechnic Karad. Institute with Institute code (0010).

Prof.S.P.Emekar   **Prof. S. B. Patil**   **Dr. R. K. Patil**

(Project Guide)   (Head of the department.)   (Head of Institute)

Seal of the institute

ACKNOWLEDGEMENT

We take this opportunity to thank all those who have directly and indirectly inspired, directed and assisted us towards successfully completion of this project report.

We express our sincere thanks to Dr R. K. Patil Principal of Government Polytechnic, Karad and the Head of Department Prof. Patil S.B, for having us allowed to submit this report as a part of our academic learning.

We express our sincere thanks to Prof.S.P.Emekar Lecturer in Computer Engineering, Govt. Polytechnic, Karad for encouragement throughout the project report and guideline in designing and working out this project. We are also grateful to team of project

Place: Government polytechnic Karad
Date: 28/10/2023

Yours Sincerely,

2251-Pratik Pramod Shejwal
2254-Shravani Bharat Mahajan
2260-Riya Sunil Kharade

MICRO-PROJECT REPORT

"COLLEGE MANAGEMENT SYSTEM"

➢ **RATIONALE:**

In this micro-project, we're going to developing desktop based application on all about "College Management System". Creating a smart computer system for colleges using Java makes sense because it helps the college run better. It does this by making paperwork easier, keeping all important information in one place, and helping students and teachers talk to each other more easily. It also keeps everything safe and private. This system can show important information and make it easy to use for a long time. Plus, it can adapt to new ways of teaching and learning. Overall, it makes the college work smoother and better, giving it an advantage in the world of education. To maintain and update student records, including personal details, academic performance, attendance, and more. To manage information related to faculty members, such as their qualifications, courses they teach, and schedules.

➢ **AIM AND BENEFITS:**

1. This system is effective and saves time and cost of users.

2. It saves organization resources and expenses.

3. It saves user time in searching a record.

➢ **COURSE OUTCOMES:**

CO a] Develop program using GUI framework (AWT and Swing).
CO b] Handle events of AWT and swing components.
CO c] Develop programs to handle events in java programming.
CO e] Develop program using database

➢ **LITERATURE REVIEW:**

1) We referred book, Book Name is Advanced Java programming, by-Uttam K.Roy
2) We referred following link:

        i)   https://www.javatpoint.com/
        ii)   https://www.geeksforgeeks.org/event-handling-in-java/
        iii)   https://youtu.be/k5tICunelSU?si=V2yzgE0-yhWD7sva
        iv)   https://youtu.be/sKRZPLrFMa4?si=3L5l1IuR5EXYU4o3

➢ ACTUAL PROPOSED METHODOLOGY:

1)Discussion about given topic.
2)Selection of good leader and distribution of responsibilities.
3)Collection of information using different resources.
4)Analysis of given information.
5)Presentation of given report.
6)Completion and submission of given tasks.

➢ ACTUAL RESOURCES REQUIRED:

Sr.no	Name of Resources	Specification	Quantity
1.	Computer system	Laptop i5 Processor 11th Generation	1
2.	Ms Word	Microsoft Word 2021 MSO 64 bit	-
3.	Internet	4G, Wi-Fi	-
4.	Book	Advanced Java Programming By- Uttam K. Roy	1
5.	Software	MySQL,Eclipse	2

➢ OUTPUT OF MICROPROJECT:

1. PROGRAM CODE:
1. Login Page

```java
import java.awt.Color;import java.awt.Font;
import java.awt.Image;import java.awt.event.*;
import javax.swing.*;import java.sql.*;
public class Login extends JFrame implements ActionListener{
JButton login, cancel;
JTextField tfusername, tfpassword;
Login(){
getContentPane().setBackground(Color.LIGHT_GRAY);
setLayout(null);
JLabel lblusername = new JLabel("Username");
  lblusername.setBounds(250, 50, 100, 20);
     lblusername.setFont(new Font("Tahoma", Font.BOLD, 15));
     add(lblusername);
     tfusername = new JTextField();
```

```java
        tfusername.setBounds(330, 50, 150, 20); add(tfusername);
        JLabel lblpassword = new JLabel("Password");
        lblpassword.setBounds(250, 90, 100, 20);
        lblpassword.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(lblpassword);
        tfpassword = new JPasswordField();
        tfpassword.setBounds(330, 90, 150, 20); add(tfpassword);
        login = new JButton("Login");
        login.setBounds(250, 140, 110, 30);
        login.setBackground(Color.green);
        login.setForeground(Color.WHITE);
        login.addActionListener(this);
        login.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(login);
        cancel = new JButton("Cancel");
        cancel.setBounds(370, 140, 110, 30);
        cancel.setBackground(Color.red);
        cancel.setForeground(Color.WHITE);
        cancel.addActionListener(this);
        cancel.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(cancel);
        ImageIcon i1=new ImageIcon("images//l1.png");
Imagei2=i1.getImage().getScaledInstance(200,200,Image.SCALE_DEFAULT)
        ImageIcon i3=new ImageIcon(i2);
        JLabel image =new JLabel(i3);
        image.setBounds(40,30,180,180);add(image);
setSize(550,300);setLocation(650,280);setVisible(true);}
public void actionPerformed(ActionEvent ae)        {
if (ae.getSource() == login) {
        String username = tfusername.getText();
        String password = tfpassword.getText();
        String query = "select * from login where username='"+username+"'
and password='"+password+"'";
        try{
            Conn c = new Conn();
            ResultSet rs = c.s.executeQuery(query);
            if (rs.next()) {
               setVisible(false);
               Project p1=new Project(); }
            else{
    JOptionPane.showMessageDialog(null, "Invalid username or password");
               setVisible(false);}
            c.s.close();  }
        catch (Exception e) {
            e.printStackTrace(); }}
else if(ae.getSource()==cancel){
        setVisible(false);              }}
public static void main(String args[]){
Login l1=new Login();
}}
```

2. Add Student

```java
import javax.swing.*;
import java.awt.*;
import java.util.*;
import com.toedter.calendar.JDateChooser;
import java.awt.event.*;
public class AddStudent extends JFrame implements ActionListener{
    private static final boolean ITALIC = false;
JTextField tfname, tffname, tfaddress, tfphone, tfemail, tfx, tfxii,
tfaadhar;
    JLabel labelrollno;JDateChooser dcdob;
    JComboBox cbcourse, cbbranch;JButton submit, cancel;
    Random ran = new Random();
    long first4 = Math.abs((ran.nextLong() % 9000L) + 1000L);
    AddStudent() {
        setSize(900, 700); setLocation(350, 50);
        setBackground(Color.black); setLayout(null);
        JLabel heading = new JLabel("New Student Details");
        heading.setBounds(310, 40, 500, 50);
        heading.setForeground(Color.black);
        heading.setFont(new Font("serif", Font.BOLD|Font.ITALIC, 35));
        add(heading);
        JLabel lblname = new JLabel("Name");
        lblname.setBounds(50, 150, 100, 30);
        lblname.setFont(new Font("serif", Font.BOLD, 20));add(lblname);
        tfname = new JTextField();
        tfname.setBounds(200, 150, 150, 30);add(tfname);
        JLabel lblfname = new JLabel("Father's Name");
        lblfname.setBounds(400, 150, 200, 30);
        lblfname.setFont(new Font("serif", Font.BOLD, 20));
        add(lblfname);
        tffname = new JTextField();
        tffname.setBounds(600, 150, 150, 30); add(tffname);
        JLabel lblrollno = new JLabel("Roll Number");
        lblrollno.setBounds(50, 200, 200, 30);
        lblrollno.setFont(new Font("serif", Font.BOLD, 20));
        add(lblrollno);
        labelrollno = new JLabel("1533"+first4);
        labelrollno.setBounds(200, 200, 200, 30);
        labelrollno.setFont(new Font("serif", Font.BOLD, 20));
        add(labelrollno);
        JLabel lbldob = new JLabel("Date of Birth");
        lbldob.setBounds(400, 200, 200, 30);
        lbldob.setFont(new Font("serif", Font.BOLD, 20));
        add(lbldob);
        dcdob = new JDateChooser();
        dcdob.setBounds(600, 200, 150, 30);
        add(dcdob);
```

```java
JLabel lbladdress = new JLabel("Address");
lbladdress.setBounds(50, 250, 200, 30);
lbladdress.setFont(new Font("serif", Font.BOLD, 20));
add(lbladdress);
tfaddress = new JTextField();
tfaddress.setBounds(200, 250, 150, 30);          add(tfaddress);
JLabel lblphone = new JLabel("Phone");
lblphone.setBounds(400, 250, 200, 30);
lblphone.setFont(new Font("serif", Font.BOLD, 20));
add(lblphone);
tfphone = new JTextField();
tfphone.setBounds(600, 250, 150, 30); add(tfphone);
JLabel lblemail = new JLabel("Email Id");
lblemail.setBounds(50, 300, 200, 30);
lblemail.setFont(new Font("serif", Font.BOLD, 20));
add(lblemail);
tfemail = new JTextField();
tfemail.setBounds(200, 300, 150, 30); add(tfemail);
JLabel lblx = new JLabel("Class X (%)");
lblx.setBounds(400, 300, 200, 30);
lblx.setFont(new Font("serif", Font.BOLD, 20)); add(lblx);
tfx = new JTextField();
tfx.setBounds(600, 300, 150, 30); add(tfx);
JLabel lblxii = new JLabel("Class XII (%)");
lblxii.setBounds(50, 350, 200, 30);
lblxii.setFont(new Font("serif", Font.BOLD, 20)); add(lblxii);
tfxii = new JTextField();
tfxii.setBounds(200, 350, 150, 30);          add(tfxii);
JLabel lblaadhar = new JLabel("Aadhar Number");
lblaadhar.setBounds(400, 350, 200, 30);
lblaadhar.setFont(new Font("serif", Font.BOLD, 20));
add(lblaadhar);
tfaadhar = new JTextField();
tfaadhar.setBounds(600, 350, 150, 30); add(tfaadhar);
JLabel lblcourse = new JLabel("Course");
lblcourse.setBounds(50, 400, 200, 30);
lblcourse.setFont(new Font("serif", Font.BOLD, 20));
add(lblcourse);
String course[] = {"B.Tech", "BBA", "BCA", "Bsc", "Msc",
"MBA", "MCA", "MCom", "MA", "BA"};
cbcourse = new JComboBox(course);
cbcourse.setBounds(200, 400, 150, 30);
cbcourse.setBackground(Color.WHITE);
add(cbcourse);
JLabel lblbranch = new JLabel("Branch");
lblbranch.setBounds(400, 400, 200, 30);
lblbranch.setFont(new Font("serif", Font.BOLD, 20));
add(lblbranch);
```

```java
        String branch[] = {"Computer Science", "Electronics",
"Mechanical", "Civil", "IT"};
        cbbranch = new JComboBox(branch);
        cbbranch.setBounds(600, 400, 150, 30);
        cbbranch.setBackground(Color.WHITE);add(cbbranch);
        submit = new JButton("Submit");
        submit.setBounds(250, 550, 120, 30);
        submit.setBackground(Color.BLACK);
        submit.setForeground(Color.WHITE);
        submit.addActionListener(this);
        submit.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(submit);
        cancel = new JButton("Cancel");
        cancel.setBounds(450, 550, 120, 30);
        cancel.setBackground(Color.BLACK);
        cancel.setForeground(Color.WHITE);
        cancel.addActionListener(this);
        cancel.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(cancel); setVisible(true);}
    public void actionPerformed(ActionEvent ae) {
        if (ae.getSource() == submit)  {
    String name = tfname.getText();String fname = tffname.getText();
    String rollno = labelrollno.getText();String dob = ((JTextField)
dcdob.getDateEditor().getUiComponent()).getText(); //typecast
        String address = tfaddress.getText();
        String phone = tfphone.getText();
        String email = tfemail.getText();
        String x = tfx.getText();
        String xii = tfxii.getText();
        String aadhar = tfaadhar.getText();
        String course = (String) cbcourse.getSelectedItem();
        String branch = (String) cbbranch.getSelectedItem();
        try  {
            String query = "insert into student values('"+name+"',
'"+fname+"', '"+rollno+"', '"+dob+"', '"+address+"', '"+phone+"',
'"+email+"', '"+x+"', '"+xii+"', '"+aadhar+"', '"+course+"',
'"+branch+"')";
            Conn con = new Conn();
            con.s.executeUpdate(query);
            JOptionPane.showMessageDialog(null, "Student Details
Inserted Successfully");
            setVisible(false);}
        catch (Exception e) {
            e.printStackTrace(); } }
    else {
      setVisible(false);}}
    public static void main(String[] args) {
        AddStudent s1= new AddStudent()}}
```

3. Examination Details:

```java
import java.awt.*;
import javax.swing.*;
import java.sql.*;
import net.proteanit.sql.DbUtils;
import java.awt.event.*;
public class ExaminationDetails extends JFrame implements ActionListener {
    JTextField search; JButton submit, cancel;JTable table;
    ExaminationDetails() {
        setSize(1000, 475);setLocation(300, 100);
        setLayout(null);getContentPane().setBackground(Color.white);
            JLabel heading = new JLabel("Check Result");
        heading.setBounds(100, 15, 400, 50);
        heading.setFont(new Font("Tahoma", Font.BOLD, 24));add(heading);
            search = new JTextField();
        search.setBounds(80, 90, 200, 30);
        search.setFont(new Font("Tahoma", Font.PLAIN, 18));
        add(search);
            submit = new JButton("Result");
        submit.setBounds(300, 90, 120, 30);
        submit.setBackground(Color.BLACK);
        submit.setForeground(Color.WHITE);
        submit.addActionListener(this);
        submit.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(submit);
            cancel = new JButton("Back");
        cancel.setBounds(440, 90, 120, 30);
        cancel.setBackground(Color.BLACK);
        cancel.setForeground(Color.WHITE);
        cancel.addActionListener(this);
        cancel.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(cancel);
        table = new JTable();
        table.setFont(new Font("Tahoma", Font.PLAIN, 16));
        JScrollPane jsp = new JScrollPane(table);
        jsp.setBounds(0, 130, 1000, 310);
        add(jsp);
        try {
            Conn c = new Conn();
            ResultSet rs = c.s.executeQuery("select * from student");
            table.setModel(DbUtils.resultSetToTableModel(rs));   }
        catch (Exception e)   {
            e.printStackTrace();}
        table.addMouseListener(new MouseAdapter()  {
            public void mouseClicked(MouseEvent me) {
```

```java
        int row = table.getSelectedRow();
        search.setText(table.getModel().getValueAt(row, 2).toString()); }  });
    setVisible(true); }
  public void actionPerformed(ActionEvent ae) {
     if (ae.getSource() == submit) {
        setVisible(false);
        new Marks(search.getText());}
     else {
        setVisible(false);} }
public static void main(String[] args) {
    new ExaminationDetails();}}
```

4. Teacher Leave

```java
        import javax.swing.*;
        import java.awt.*;
        import java.sql.*;
        import com.toedter.calendar.JDateChooser;
        import java.awt.event.*;
        public class TeacherLeave extends JFrame implements ActionListener{
           Choice cEmpId, ctime;
           JDateChooser dcdate;
           JButton submit, cancel;
             TeacherLeave() {
             setSize(500, 550);
             setLocation(550, 100);
             setLayout(null);
             getContentPane().setBackground(Color.WHITE);
             JLabel heading = new JLabel("Apply Leave (Teacher)");
             heading.setBounds(40, 50, 300, 30);
             heading.setFont(new Font("Tahoma", Font.BOLD, 20));
             add(heading);
             JLabel lblrollno = new JLabel("Search by Employee Id");
             lblrollno.setBounds(60, 100, 200, 20);
             lblrollno.setFont(new Font("Tahoma", Font.PLAIN, 18));
             add(lblrollno);
             cEmpId = new Choice();
             cEmpId.setBounds(60, 130, 200, 20);
             add(cEmpId);
             try {
                Conn c = new Conn();
                ResultSet rs = c.s.executeQuery("select * from teacher");
                while(rs.next()) {
                   cEmpId.add(rs.getString("empId"));}}
             catch (Exception e) {
                e.printStackTrace();}
             JLabel lbldate = new JLabel("Date");
             lbldate.setBounds(60, 180, 200, 20);
```
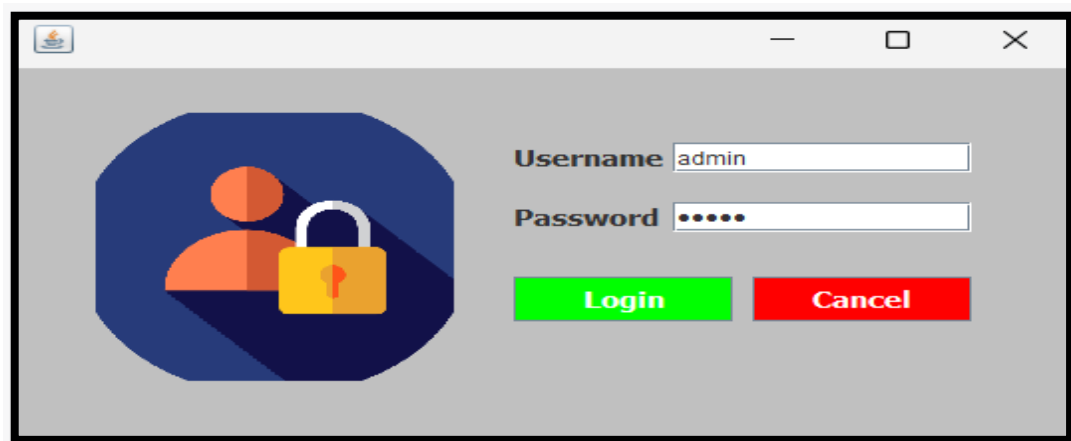
```java
        lbldate.setFont(new Font("Tahoma", Font.PLAIN, 18));
        add(lbldate);
        dcdate = new JDateChooser();
        dcdate.setBounds(60, 210, 200, 25);
        add(dcdate);
        JLabel lbltime = new JLabel("Time Duration");
        lbltime.setBounds(60, 260, 200, 20);
        lbltime.setFont(new Font("Tahoma", Font.PLAIN, 18));
        add(lbltime);
            ctime = new Choice();
        ctime.setBounds(60, 290, 200, 20);
        ctime.add("Full Day");
        ctime.add("Half Day");
        add(ctime);
            submit = new JButton("Submit");
        submit.setBounds(60, 350, 100, 25);
        submit.setBackground(Color.BLACK);
        submit.setForeground(Color.WHITE);
        submit.addActionListener(this);
        submit.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(submit);
        cancel = new JButton("Cancel");
        cancel.setBounds(200, 350, 100, 25);
        cancel.setBackground(Color.BLACK);
        cancel.setForeground(Color.WHITE);
        cancel.addActionListener(this);
        cancel.setFont(new Font("Tahoma", Font.BOLD, 15));
        add(cancel);
        setVisible(true);}
        public void actionPerformed(ActionEvent ae)  {
        if (ae.getSource() == submit) {
           String rollno = cEmpId.getSelectedItem();
           String date = ((JTextField)
     dcdate.getDateEditor().getUiComponent()).getText();
           String duration = ctime.getSelectedItem();
           String query = "insert into teacherleave values('"+rollno+"',
     '"+date+"', '"+duration+"')";
           try{
              Conn c = new Conn();
              c.s.executeUpdate(query);
              JOptionPane.showMessageDialog(null, "Leave Confirmed");
              setVisible(false);  }
           catch (Exception e) {
              e.printStackTrace(); }}
        else{setVisible(false);}}
     public static void main(String[] args) {
           TeacherLeave t1= new TeacherLeave();
      }
  }
```
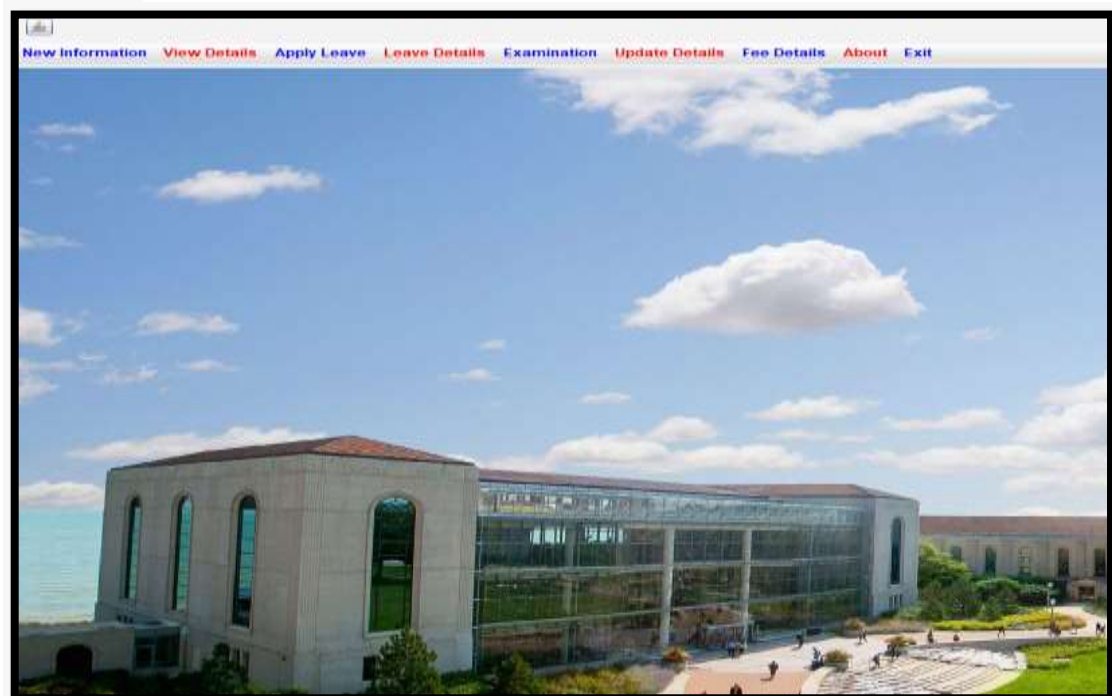
1) Login Page

2) Menu Bar

3) Teacher Detail

4) AddStudent Page

New Student Details

Name	Nikita Bhagat	**Father's Name**	Suresh Bhagat
Roll Number	15331105	**Date of Birth**	17 Jul, 2005
Address	Khanapur	**Phone**	827726225
Email Id	nikita@gmail.com	**Class X (%)**	93
Class XII (%)	90	**Aadhar Number**	87266262626
Course	MA	**Branch**	Electronics

Message ✕

ⓘ Student Details Inserted Successfully

OK

Submit **Cancel**

5) Student Fee Form

Select Roll No	15333433
Name	Riya Sunil Kharade
Father's Name	Sunil Kharade
Course	BTech
Branch	Computer Science
Semester	Semester8
Total Payable	43000

Message ✕

ⓘ College fee submitted successfully

OK

Update   Pay Fee   Back

6) Teacher Leave

Apply Leave (Teacher)

Search by Employee Id

1014554

Date

21 Oct, 2023

Time Duration

Half Day

Submit   **Cancel**

Message ✕

ⓘ Leave Confirmed

OK

7) Student Update

Update Student Details

Select Roll Number   15336400

Name	Shravani Mahajan	**Father's Name**	Bharat Mahajan
Roll Number	15336400	**Date of Birth**	12 Oct, 2005
Address	sangli	**Phone**	9827643527
Email Id	mahajan@gmail.com	**Class X (%)**	97
Class XII (%)	96	**Aadhar Number**	426673388
Course	Bcom	**Branch**	Computer Science

Update   Cancel

Message   X

(i) Student Details Updated Successfully

OK

8) About

College Management System

Developed By:Pratik,Shravani,Riya
Contact Us:projectpsr@gmail.com

➢ SKILL DEVELOPED/ LEARNING OUT OF THIS MICRO-PROJECT

- Improving logical thinking and Programming Skills.
- Importance of Database Connectivity.
- Efficient communication skills.
- Working as a team member for developing program.
- Developing leadership qualities.

➢ APLLICATION OF MICROPROJECT:

- This project can be used in the implementation of College Management System.
- The project can be also used to understand Java Programming. The project can be used in Library to maintain records

➢ CONCLUSION OF MICROPROJECT:

In conclusion, the development of our advanced Java microproject for the college management system has demonstrated the effective integration of essential functionalities such as adding, updating, and deleting student records, while also enabling efficient searching capabilities. This comprehensive system not only streamlines administrative tasks but also enhances the overall efficiency of managing student data,as well as Teacher Data ultimately contributing to a more organized and responsive educational environment.

➢ References:

1)We referred book, Book Name is Advanced Java programming, by-Uttam K.Roy
2)We referred following link:

1. https://www.javatpoint.com/
2. https://www.geeksforgeeks.org/event-handling-in-java/
3. https://youtu.be/k5tICunelSU?si=V2yzgE0-yhWD7sva
4. https://youtu.be/sKRZPLrFMa4?si=3L5l1IuR5EXYU4o3