

## CheckMyGrade Application

### Overview

This code implements a comprehensive Student Management System with functionality for students and professors. The system allows for registration, login, and various data management operations. Let's break down the main components:

### Core Classes

#### 1. Student Class

- **Purpose:** Manages student data including personal information, courses, grades, and marks
- **Key Functions:**
  - `display_records()`: Shows student information and courses
  - `add_new_student()`: Adds a new student to the system
  - `delete_new_student()`: Removes a student from the system
  - `update_student_record()`: Updates student information
  - `check_my_grades()` and `check_my_marks()`: Display grade/mark information

#### 2. Course Class

- **Purpose:** Manages course information
- **Key Functions:**
  - `display_courses()`: Shows course details
  - `add_new_course()`: Adds a new course to the system
  - `delete_new_course()`: Removes a course from the system

#### 3. Professor Class

- **Purpose:** Manages professor information and their associated courses
- **Key Functions:**
  - `professors_details()`: Shows professor information
  - `add_new_professor()`: Adds a new professor
  - `delete_professor()`: Removes a professor
  - `modify_professor_details()`: Updates professor information
  - `show_course_details_by_professor()`: Shows courses taught by a specific professor

#### 4. Grades Class

- **Purpose:** Manages grade information and marking schemes
- **Key Functions:**
  - `display_grade_report()`: Shows grade details

- `add_grade()`: Adds a new grade to the system
- `delete_grade()`: Removes a grade
- `modify_grade()`: Updates grade information

## 5. LoginUser Class

- **Purpose:** Handles user authentication
- **Key Functions:**
  - `Login()` and `Logout()`: Handle user sessions
  - `Change_password()`: Updates user passwords
  - `Encrypt_password()` and `Decrypt_password()`: Simple password security

## Data Persistence

The system uses CSV files to store data:

- `student.csv`: Student information
- `courses.csv`: Course information
- `professors.csv`: Professor information
- `grades.csv`: Grade information
- `login.csv`: User authentication data

The code includes functions to read from and write to these files, ensuring data persistence across sessions.

## Authentication System

The missing `TextSecurity` class (which we added) implements a basic Caesar cipher for password encryption/decryption. User credentials are stored in the `login` CSV file with encrypted passwords.

## Main Program Flow

The main function provides a menu-driven interface with two primary roles:

### Student Role

Students can:

- Register and login
- View their records, grades, and marks
- See available courses and professor information

### Professor Role

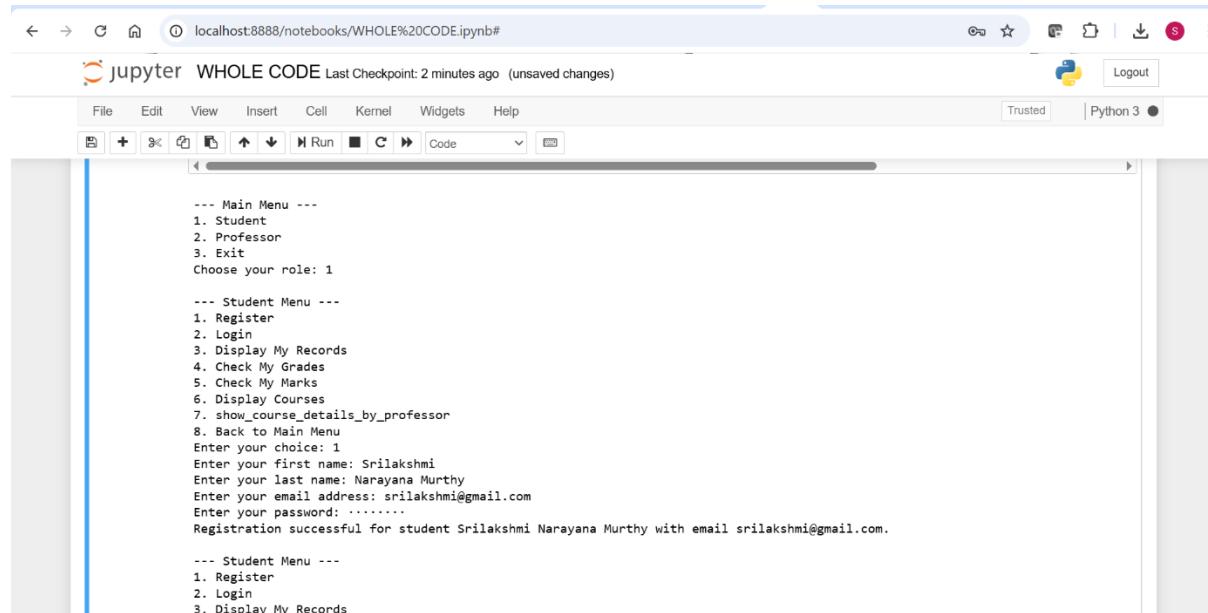
Professors have additional administrative capabilities:

- Add, delete, and update student records
- Manage courses and grades

- Add and manage other professors
- Search for students and sort by marks
- View comprehensive grade reports

## STUDENT MENU

### 1. REGISTER STUDENT



The screenshot shows a Jupyter Notebook interface with the title "jupyter WHOLE CODE". The code cell contains the following interaction:

```

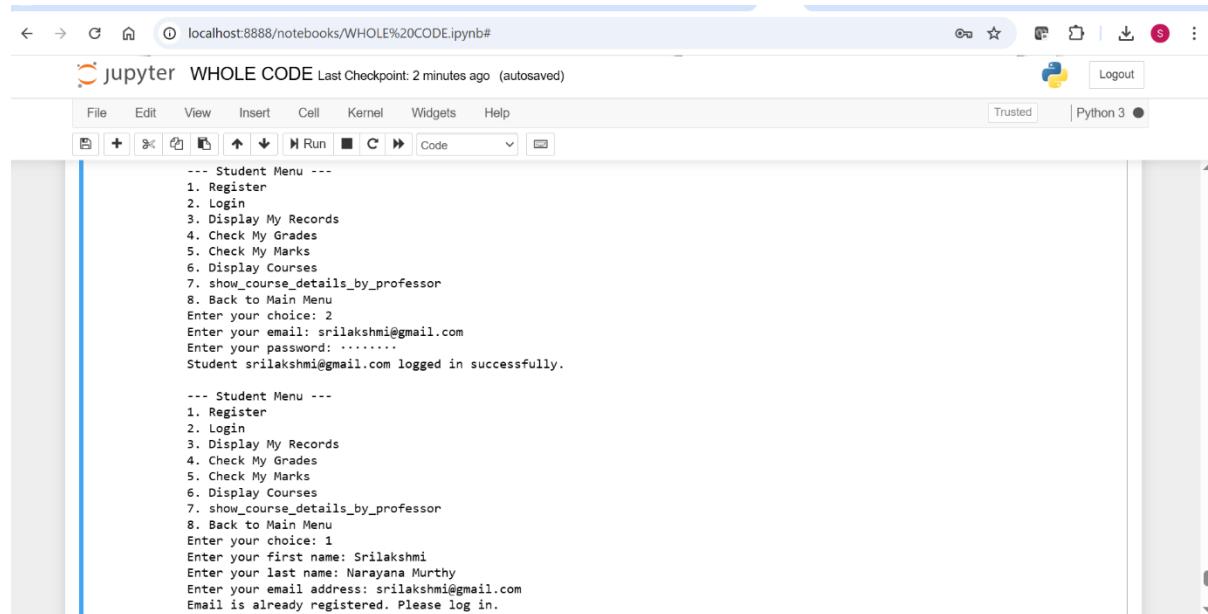
--- Main Menu ---
1. Student
2. Professor
3. Exit
Choose your role: 1

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 1
Enter your first name: Srilakshmi
Enter your last name: Narayana Murthy
Enter your email address: srlakshmi@gmail.com
Enter your password: .....
Registration successful for student Srilakshmi Narayana Murthy with email srlakshmi@gmail.com.

--- Student Menu ---
1. Register
2. Login
3. Display My Records

```

### 2. LOGIN AND OUTPUT IF WE REGISTER AGAIN WITH ALREADY REGISTERED MAIL FOR STUDENT



The screenshot shows a Jupyter Notebook interface with the title "jupyter WHOLE CODE". The code cell contains the following interaction:

```

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 2
Enter your email: srlakshmi@gmail.com
Enter your password: .....
Student srlakshmi@gmail.com logged in successfully.

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 1
Enter your first name: Srilakshmi
Enter your last name: Narayana Murthy
Enter your email address: srlakshmi@gmail.com
Email is already registered. Please log in.

```

a. Login CSV file after register and login with encryption

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	User ID	Password	Role															
2	adam.prof.udshofjut_fqijimeht_xuhu																	
3	Linda.prof.udshofjut_fqijimeht_xuhu																	
4	robert.prcudshofjut_fqijimeht_xuhu																	
5	srilakshmi wvmpeow@student																	
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		

b. If user doesnot exist

```
def __name__ == "__main__":
    main()

--- Main Menu ---
1. Student
2. Professor
3. Exit
Choose your role: 1

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 2
Enter your email: rakshita@gmail.com
Enter your password: .....
User not found.

--- Student Menu ---
```

c.

3. Displaying that particular student records

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

### jupyter WHOLE CODE Last Checkpoint: 9 hours ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Logout

```
--- Main Menu ---
1. Student
2. Professor
3. Exit
Choose your role: 1

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 3
Enter your email to display records: srilakshmi@gmail.com
Student: Srilakshmi NarayanaMurthy
Email: srilakshmi@gmail.com
Courses and Grades:
Course: Math, Grade: A
Course: English, Grade: A
Course: History, Grade: B

--- Student Menu ---
1. Register
2. Login
3. Dislay Mv_Records
```

b. If student is not there

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

### jupyter WHOLE CODE Last Checkpoint: 19 hours ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Logout

```
--- Main Menu ---
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 2
Enter your email: rakshita@gmail.com
Enter your password: .....
User not found.

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 3
Enter your email to display records: rakshita@gmail.com
Student not found.

--- Student Menu ---
1. Register
2. Login
3. Display My Records
```

4. Checking that particular student grades to display

A screenshot of a Jupyter Notebook interface. The top bar shows the URL "localhost:8888/notebooks/WHOLE%20CODE.ipynb#". The title bar says "jupyter WHOLE CODE Last Checkpoint: 9 hours ago (autosaved)". The toolbar includes File, Edit, View, Insert, Cell, Kernel, Widgets, Help, Trusted, Python 3, and Logout. A code cell contains the following Python code:

```
if __name__ == "__main__":
    main()

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 4
Enter your email to check grades: srilakshmi@gmail.com
Grades for Srilakshmi NarayanaMurthy: A, A, B

--- Student Menu ---
1. Register
2. Login
3. Display My Records
```

b.If student is not there with that particular email id

A screenshot of a Jupyter Notebook interface. The top bar shows the URL "localhost:8888/notebooks/WHOLE%20CODE.ipynb#". The title bar says "jupyter WHOLE CODE Last Checkpoint: 19 hours ago (unsaved changes)". The toolbar includes File, Edit, View, Insert, Cell, Kernel, Widgets, Help, Trusted, Python 3, and Logout. A code cell contains the following Python code:

```
--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 4
Enter your email to check grades: rakshita@gmail.com
Student not found.

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 5
Enter your email to check marks: rakshita@gmail.com
Student not found.

--- Student Menu ---
1. Register
```

5. Checking that particular student marks

A screenshot of a Jupyter Notebook interface. The URL in the address bar is `localhost:8888/notebooks/WHOLE%20CODE.ipynb#`. The notebook title is "jupyter WHOLE CODE" and it shows a last checkpoint at 9 hours ago (autosaved). The Python kernel is set to Python 3. The code cell contains the following Python script:

```
if __name__ == "__main__":
    main()

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 5
Enter your email to check marks: srlakshmi@gmail.com
Marks for Srilakshmi NarayanaMurthy: 88, 62, 99

--- Student Menu ---
1. Register
2. Login
3. Display My Records
```

## 6. Displaying courses

A screenshot of a Jupyter Notebook interface. The URL in the address bar is `localhost:8888/notebooks/WHOLE%20CODE.ipynb#`. The notebook title is "jupyter WHOLE CODE" and it shows a last checkpoint at 9 hours ago (autosaved). The Python kernel is set to Python 3. The code cell contains the following Python script:

```
if __name__ == "__main__":
    main()

Marks for Srilakshmi NarayanaMurthy: 88, 62, 99

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 6
All available courses are:
Course ID: MATH101, Course Name: Math, Credits: 3
Course ID: ENGL02, Course Name: English, Credits: 4
Course ID: HIST201, Course Name: History, Credits: 3
Course ID: DATA200, Course Name: PYTHON, Credits: 4
```

## 7. Showing all courses with particular courses and professor details

A screenshot of a Jupyter Notebook interface. The top bar shows the URL as "localhost:8888/notebooks/WHOLE%20CODE.ipynb#". The title bar says "jupyter WHOLE CODE Last Checkpoint: 9 hours ago (autosaved)". The menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, Help, Trusted, and Python 3. The toolbar has icons for file operations like New, Open, Save, Run, Cell, and Help. The main area contains Python code and its output:

```
if __name__ == "__main__":
    main()

8. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 7

--- Professors and their Courses ---

Professor: Dr. Adam (Email: adam.professor@example.com)
Courses taught by Professor Dr. Adam:
Course ID: MATH101, Course Name: Math

Professor: Dr. Linda (Email: linda.professor@example.com)
Courses taught by Professor Dr. Linda:
Course ID: ENGL102, Course Name: English

Professor: Dr. Robert (Email: robert.professor@example.com)
Courses taught by Professor Dr. Robert:
Course ID: HIST201, Course Name: History
```

## 8.Coming back to main menu

A screenshot of a Jupyter Notebook interface, similar to the previous one but with different output. The main area contains Python code and its output:

```
if __name__ == "__main__":
    main()

8. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 8

Course ID: HIST201, Course Name: History

--- Student Menu ---
1. Register
2. Login
3. Display My Records
4. Check My Grades
5. Check My Marks
6. Display Courses
7. show_course_details_by_professor
8. Back to Main Menu
Enter your choice: 8
Returning to main menu...

--- Main Menu ---
1. Student
2. Professor
3. Exit
```

## PROFESSOR MENU

### 1.REGISTER FOR PROFESSOR

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 5 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
if __name__ == "__main__":
    main()

10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 1
Enter your name: Dr.Simon Shim
Enter your email address: Simon@gmail.com
Enter your rank: professor
Enter course ID: DATAWAREHOUSE1
Enter your password: .....
Registration successful for professor Dr.Simon Shim with email Simon@gmail.com.

--- Professor Menu ---
1. Register
```

In [ ]:

Type here to search Rain... ENG 20:15 16-03-2025

## 2.LOGIN

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 6 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
if __name__ == "__main__":
    main()

9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 2
Enter your email: Simon@gmail.com
Enter your password: .....
Professor Simon@gmail.com logged in successfully.

--- Professor Menu ---
1. Register
2. Login
```

In [ ]:

Type here to search Rain... ENG 20:17 16-03-2025

a.LOGIN AND OUTPUT IF WE REGISTER AGAIN WITH ALREADY REGISTERED MAIL

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 7 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
if __name__ == "__main__":
    main()

7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 1
Enter your name: Simon
Enter your email address: Simon@gmail.com
Email is already registered. Please log in.

--- Professor Menu ---
1. Register
```

In [ ]:

Type here to search Rain... 2017 16-03-2025

c.If professor is not found

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 19 hours ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
if __name__ == "__main__":
    main()

10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 3
Enter email to display professor details: rakshita@gmail.com
Professor not found.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
```

In [ ]:

Type here to search 12°C 15:59 17-03-2025

b.Login csv after professor is logged in

The screenshot shows a Microsoft Excel spreadsheet titled "login - Excel". The data is organized into three columns: "User ID", "Password", and "Role". The "User ID" column contains email addresses, the "Password" column contains placeholder text, and the "Role" column contains "professor".

	User ID	Password	Role
1	adam.professor@exudshofut.fqjimeht.xuhu	Wmpeow	professor
2	linda.professor@exudshofut.fqjimeht.xuhu	Wmpeow	professor
3	robert.professor@exudshofut.fqjimeht.xuhu	Wmpeow	professor
4	srilakshmi@gmail.co	Vwmpeow	student
5	Simon@gmail.com	Wmqsr@5	professor
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

### 3. Displaying professors details

jupyter WHOLE CODE Last Checkpoint: 6 minutes ago (autosaved)

Kernel starting, please wait... Trusted Python 3

File Edit View Insert Cell Kernel Widgets Help

Code

6. Add New Student  
7. Delete Student  
8. Update Student Record  
9. Add New Course  
10. Delete Course  
11. Add Grade  
12. Delete Grade  
13. Modify Grade  
14. Add New Professor  
15. Delete Professor  
16. Modify Professor Details  
17. Search by Student  
18. Sort by Student Marks  
19. Back to Main Menu  
Enter your choice: 3  
Enter email to display professor details: param@gmail.com  
Professor: Dr. Paramdeep Saini, Rank: Professor, Email: param@gmail.com  
Teaches Course ID: DATA200

--- Professor Menu ---  
1. Register  
2. Login  
3. Display Professor Details  
4. Display Student Records  
5. Display Grade Report  
6. Add New Student  
7. Delete Student  
8. Update Student Record

#### 4. Display student records

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 10 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 Logout

```
if __name__ == "__main__":
    main()
```

14. Add New Professor  
15. Delete Professor  
16. Modify Professor Details  
17. Search by Student  
18. Sort by Student Marks  
19. Back to Main Menu  
Enter your choice: 4  
Student: Srilakshmi NarayanaMurthy  
Email: srlakshmi@gmail.com  
Courses and Grades:  
Course: Math, Grade: A  
Course: English, Grade: A  
Course: History, Grade: B  
Student: James Franco  
Email: mariothornton@example.org  
Courses and Grades:  
Course: History, Grade: A  
Course: Math, Grade: C  
Course: English, Grade: A

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 10 minutes ago (autosaved)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 Logout

```
if __name__ == "__main__":
    main()
```

Course: History, Grade: C  
Student: Matthew Herrera  
Email: jamesamanda@example.net  
Courses and Grades:  
Course: English, Grade: C  
Course: History, Grade: B  
Course: Math, Grade: B  
Student: Brittany Young  
Email: bryangrimes@example.org  
Courses and Grades:  
Course: English, Grade: B  
Course: History, Grade: B  
Course: Math, Grade: B  
Student: David Nelson  
Email: patricia96@example.com  
Courses and Grades:  
Course: English, Grade: B  
Course: History, Grade: B  
Course: Math, Grade: B  
Student: Nicholas York

## 5. Displaying Grade Report

A screenshot of a Jupyter Notebook interface. The URL in the address bar is `localhost:8888/notebooks/WHOLE%20CODE.ipynb#`. The notebook title is "jupyter WHOLE CODE". The last checkpoint was 12 minutes ago (autosaved). The menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, Help, and a toolbar with various icons. A status bar at the bottom right shows "Kernel starting, please wait..." and "Trusted Python 3". The main code cell contains the following Python code and output:

```
File Edit View Insert Cell Kernel Widgets Help
Kernel starting, please wait... Trusted Python 3

8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 5
Enter the student's email to view their grade report: srlakshmi@gmail.com

Grade Report for Srilakshmi NarayanaMurthy:
Course: Math, Grade: A, Marks: 88
Course: English, Grade: A, Marks: 62
Course: History, Grade: B, Marks: 99

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Student
7. Delete Student
```

b. If student is not present with that mail

A screenshot of a Jupyter Notebook interface. The URL in the address bar is `localhost:8888/notebooks/WHOLE%20CODE.ipynb#`. The notebook title is "jupyter WHOLE CODE". The last checkpoint was 19 hours ago (unsaved changes). The menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, Help, and a toolbar with various icons. A status bar at the bottom right shows "Trusted Python 3". The main code cell contains the following Python code and output:

```
In [ ]:
if __name__ == "__main__":
    main()

4. Display Student Records
5. Display Grade Report
6. Add New Student
7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 5
Enter the student's email to view their grade report: rakshita@gmail.com
Student not found.
```

## 6. ADD NEW STUDENT

### a. STUDENT CSV FILE BEFORE ADDING

A screenshot of Microsoft Excel showing a CSV file named "student.csv". The file contains data for 100 students, including their names, email addresses, and grades. The columns are labeled A through S, and the rows are numbered from 987 to 1006. The data includes various subjects like English, History, and Math, along with their respective grades.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
987	Jimmy	Jackson	georgeferi	Math, Eng	A, B, A	76, 79, 59													
988	Jessica	Davis	helen06@English,	HID, C, D	63, 100, 80														
989	Clinton	Johnson	marcus77	History, MD, C, A	52, 63, 61														
990	Peter	Schaefer	rivasbritta	Math, Eng D, B	95, 95, 53														
991	Holly	Scott	gardnerlo	Math, Hist A, A	68, 83, 88														
992	Daniel	Flowers	dburke@English,	HID, F, A	73, 80, 92														
993	Stephen	Murphy	nicolediaz	English, HID, A, C	84, 84, 56														
994	Crystal	Lang	zwillkins@English,	MF, F, F	81, 90, 87														
995	Joseph	Martinez	alisonprat	History, ErB, B, B	73, 60, 60														
996	Bradley	Murray	johnbeck	Math, HistB, B, F	63, 72, 96														
997	Heather	Cole	jennadura	English, HIC, B, C	86, 77, 91														
998	Janice	Thomas	charlottev	Math, HistB, C, D	56, 95, 73														
999	Matthew	Fry	toddwolf	English, MD, A, D	96, 57, 65														
1000	Stephen	Elliott	jacobsteve	Math, HistD, B, F	65, 59, 100														
1001	Alejandro	Warren	eringibbs	English, MD, F, B	88, 81, 79														
1002	Christine	Love	ymorton@Math,	HistB, C, A	56, 75, 84														
1003																			
1004																			
1005																			
1006																			

### b. STUDENT CSV FILE AFTER ADDING

A screenshot of Microsoft Excel showing the same CSV file as in part (a), but with an additional row at the top containing student information. The new row includes a student ID (A985) and an email address (Atmakuri Joshita1@gmail.com). The rest of the data remains the same as in the original file.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
985	David	Ross	dianacarsi	Math, Eng	C, B, D	88, 64, 62													
986	Crystal	Johnson	jonesjessie	English, HID, F, F	83, 57, 93														
987	Jimmy	Jackson	georgeferi	Math, Eng A, B, A	76, 79, 59														
988	Jessica	Davis	helen06@English,	HID, C, D	63, 100, 80														
989	Clinton	Johnson	marcus77	History, MD, C, A	52, 63, 61														
990	Peter	Schaefer	rivasbritta	Math, Eng D, B	95, 95, 53														
991	Holly	Scott	gardnerlo	Math, Hist A, A	68, 83, 88														
992	Daniel	Flowers	dburke@English,	HID, F, A	73, 80, 92														
993	Stephen	Murphy	nicolediaz	English, HID, A, C	84, 84, 56														
994	Crystal	Lang	zwillkins@English,	MF, F, F	81, 90, 87														
995	Joseph	Martinez	alisonprat	History, ErB, B, B	73, 60, 60														
996	Bradley	Murray	johnbeck	Math, HistB, B, F	63, 72, 96														
997	Heather	Cole	jennadura	English, HIC, B, C	86, 77, 91														
998	Janice	Thomas	charlottev	Math, HistB, C, D	56, 95, 73														
999	Matthew	Fry	toddwolf	English, MD, A, D	96, 57, 65														
1000	Stephen	Elliott	jacobsteve	Math, HistD, B, F	65, 59, 100														
1001	Alejandro	Warren	eringibbs	English, MD, F, B	88, 81, 79														
1002	Christine	Love	ymorton@Math,	HistB, C, A	56, 75, 84														
1003																			
1004																			

### 7. DELETE STUDENT

### a. STUDENT CSV FILE BEFORE DELETING

The screenshot shows a Microsoft Excel spreadsheet titled "student - Excel". The data is organized into columns: A (Index), B (First Name), C (Last Name), D (Email), E (Courses), F (Grades), and G (Marks). The data includes 20 rows of student information. Row 3 highlights a student named Lisa Jones with the email dannythompson@example.net.

1	First Name	Last Name	Email	Courses	Grades	Marks
2	Srilakshmi	Narayana	srilakshmi	Math, Eng	A, B	88, 62, 99
3	Lisa	Jones	dannytho	History, MF	C, D	69, 81, 72
4	Renee	Lamb	rbrown@u	Math, Eng	D, B, F	89, 63, 97
5	Gina	Williams	richard45	History, Er	B, D, C	76, 58, 81
6	Alejandro	Wells	mcdanieln	History, Er	F, A, F	60, 66, 97
7	Megan	Parks	howardna	History, MB	F, D	54, 58, 96
8	Becky	Figueroa	tammy94	English, MF	B, C	73, 61, 50
9	Gavin	Adams	timothy53	History, MA	A, B	88, 62, 99
10	John	White	bgomez@	Math, Eng	F, A	56, 70, 77
11	Amber	Franklin	latoyawall	English, MB	F, C	85, 54, 86
12	Matthew	Herrera	jamesama	English, Hi	C, B	70, 86, 93
13	Brittany	Young	bryangrim	English, Hi	B, B	97, 88, 52
14	David	Nelson	patricia96	English, Hi	B, B	54, 82, 79
15	Nicholas	York	ogreen@	Math, Eng	B, F, A	60, 80, 81
16	Emily	Ferguson	robinsonp	English, MD	D, B	68, 60, 87
17	Jessica	Velasquez	rowlandar	Math, Hist	D, D, B	95, 69, 96
18	Thomas	Ruiz	michele64	History, Er	A, C	85, 53, 93
19	Michelle	Mercer	zhernand	English, MD	C, C	65, 90, 87
20	Caitlin	Wright	smithvalei	History, MF	F, B	70, 95, 97

### b. If student is not there with that mail

The screenshot shows a Jupyter Notebook interface with a Python 3 kernel. The code cell contains the following Python code:

```
if __name__ == "__main__":
    main()
```

Below the code cell, a menu is displayed:

- 9. Add New Course
- 10. Delete Course
- 11. Add Grade
- 12. Delete Grade
- 13. Modify Grade
- 14. Add New Professor
- 15. Delete Professor
- 16. Modify Professor Details
- 17. Search by Student
- 18. Sort by Student Marks
- 19. Back to Main Menu

Enter your choice: 7  
Enter student's email to delete: rakshita@gmail.com  
Student not found.

--- Professor Menu ---

- 1. Register
- 2. Login
- 3. Display Professor Details
- 4. Display Student Records

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 29 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 Logout

```

if __name__ == "__main__":
    main()

10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 7
Enter student's email to delete: dannythompson@example.net
Student record for Lisa Jones has been deleted successfully.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report

```

## b. STUDENT CSV FILE AFTER DELETING

student - Excel

File Home Insert Page Layout Formulas Data Review View Help Acrobat Tell me what you want to do Srilakshmi N SN

Clipboard Font Alignment Number Conditional Formatting Styles Cells Editing Add-ins Create a PDF

**POSSIBLE DATA LOSS** Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format. Don't show again Save As...

A1 First Name Last Name Email Courses Grades Marks

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	First Name	Last Name	Email	Courses	Grades	Marks													
2	Srilakshmi	Narayana	srilakshmi	Math, Eng A, A, B	88, 62, 99														
3	Renee	Lamb	rbrown@t	Math, Eng D, B, F	89, 63, 97														
4	Gina	Williams	richard45	History, Er B, D, C	76, 58, 81														
5	Alejandro	Wells	mcdanieln	History, Er F, A, F	60, 66, 97														
6	Megan	Parks	howardna	History, MB, F, D	54, 58, 96														
7	Becky	Figueroa	tammy94	English, MF, B, C	73, 61, 50														
8	Gavin	Adams	timothy53	History, MA, A, B	88, 62, 99														
9	John	White	bgomez@	Math, Eng F, F, A	56, 70, 77														
10	Amber	Franklin	latoyawall	English, MB, F, C	85, 54, 86														
11	Matthew	Herrera	jamesama	English, HiC, B, B	70, 86, 93														
12	Brittany	Young	bryangrim	English, HiB, B, B	97, 88, 52														
13	David	Nelson	patricia96	English, HiB, B, B	54, 82, 79														
14	Nicholas	York	ogreen@e	Math, Eng B, F, A	60, 80, 81														
15	Emily	Ferguson	robinsonp	English, M D, D, B	68, 60, 87														
16	Jessica	Velasquez	rowlandar	Math, Hist D, D, B	95, 69, 96														
17	Thomas	Ruiz	michele64	History, Er A, A, C	85, 53, 93														
18	Michelle	Mercer	zhernand	English, MD, C, C	65, 90, 87														
19	Caitlin	Wright	smithvaleri	History, MF, F, B	70, 95, 97														
20	Matthew	Welch	warrenjar	English, HiF, D, C	81, 54, 73														

student

Ready Accessibility: Unavailable Type here to search 02:27 15-03-2025 100%

## 8. UPDATE STUDENT RECORD

### a. STUDENT RECORD BEFORE UPDATING

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
985	David	Ross	dianacarsi	Math, Eng	C, B, D	88, 64, 62												
986	Crystal	Johnson	jonesjessi	English, HI	D, F, F	83, 57, 93												
987	Jimmy	Jackson	georgeferi	Math, Eng	A, B, A	76, 79, 59												
988	Jessica	Davis	helen06@	English, HI	C, D	63, 100, 80												
989	Clinton	Johnson	marcus77	History, MD	C, A	52, 63, 61												
990	Peter	Schaefer	rivasbritta	Math, Eng	D, D, B	95, 95, 53												
991	Holly	Scott	gardnerlo	Math, Hist	A, A	68, 83, 88												
992	Daniel	Flowers	dburke@	English, HI	D, F, A	73, 80, 92												
993	Stephen	Murphy	nicolediaz	English, HI	B, A, C	84, 84, 56												
994	Crystal	Lang	zwilkins@	English, MF	F, F	81, 90, 87												
995	Joseph	Martinez	alisonprat	History, ER	B, B, B	73, 60, 60												
996	Bradley	Murray	johnbeck@	Math, Hist	B, B, F	63, 72, 96												
997	Heather	Cole	jennadura	English, HI	C, B, C	86, 77, 91												
998	Janice	Thomas	charlottew	Math, Hist	B, C, D	56, 95, 73												
999	Matthew	Fry	toddwolf@	English, MD	A, D	96, 57, 65												
1000	Stephen	Elliott	jacobsteve	Math, Hist	B, F	65, 59, 100												
1001	Alejandro	Warren	eringibbs@	English, MD	F, B	88, 81, 79												
1002	Christine	Love	ymorton@	Math, Hist	B, C, A	56, 75, 84												
1003	Joshita	Atmakuri	Joshita1@gmail.com															
1004																		

```
if __name__ == "__main__":
    main()

15. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 8
Enter email to update student record: Joshita1@gmail.com
Enter new first name (or leave blank to keep current):
Enter new last name (or leave blank to keep current):
Enter new email (or leave blank to keep current):
Enter new courses (comma separated): History, Math, English
Enter new grades (comma separated): A, C, A
Enter new marks (comma separated): 52, 85, 81
Student record for Joshita Atmakuri updated successfully.

--- Professor Menu ---
1. Register
2. Login
```

### b. STUDENT RECORD AFTER UPDATING

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
988	Peter	Schaefer	rivasbritta	Math, Eng	D, D, B	95, 95, 53													
989	Holly	Scott	gardnerlo	Math, Hist	A, A, A	68, 83, 88													
990	Daniel	Flowers	dburke@	English, HID	F, A	73, 80, 92													
991	Stephen	Murphy	nicolediaz	English, HiB	A, C	84, 84, 56													
992	Crystal	Lang	zwillkins@	English, MF	F, F	81, 90, 87													
993	Joseph	Martinez	alisonprat	History, ErB	B, B	73, 60, 60													
994	Bradley	Murray	johnbeck@	Math, Hist	B, B, F	63, 72, 96													
995	Heather	Cole	jennadura	English, HiC	B, C	86, 77, 91													
996	Janice	Thomas	charlottev	Math, Hist	B, C, D	56, 95, 73													
997	Matthew	Fry	toddwolf@	English, MD	A, D	96, 57, 65													
998	Stephen	Elliott	jacobsstev	Math, Hist	D, B, F	65, 59, 100													
999	Alejandro	Warren	eringibbs@	English, MD, F	B	88, 81, 79													
1000	Christine	Love	ymorton@	Math, Hist	B, C, A	56, 75, 84													
1001	Joshita	Atmakuri	Joshita@	History, MA	C, A	52, 85, 81													
1002																			
1003																			
1004																			
1005																			
1006																			
1007																			

c.student update if that particular ID is not there

```

if __name__ == "__main__":
    main()

8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 8
Enter email to update student record: rakshita@gmail.com
Student not found.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details

```

## 9. ADD COURSE

### a. COURSE CSV BEFORE ADDING

courses - Excel

The screenshot shows a Microsoft Excel spreadsheet titled "courses - Excel". The table has columns labeled A through S. Row 1 contains headers: "Course ID", "Course Name", and "Credits". Rows 2, 3, and 4 contain data: "MATH101", "Math", "3"; "ENG102", "English", "4"; and "HIST201", "History", "3". The rest of the rows (5-20) are empty.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Course ID	Course Name	Credits															
2	MATH101	Math	3															
3	ENG102	English	4															
4	HIST201	History	3															
5																		
6																		
7																		
8																		
9																		
10																		
11																		
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20																		

localhost:8888/notebooks/WHOLE%20CODE.ipynb

Jupyter WHOLE CODE Last Checkpoint: 39 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```

2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Student
7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 9
Enter course ID: BIOLOGY1
Enter credits for the course: 4
Enter course name: BIOLOGY
Course BIOLOGY (ID: BIOLOGY1) added successfully.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details

```

## b. COURSE CSV AFTER ADDING

courses - Excel

The screenshot shows a Microsoft Excel spreadsheet titled "courses - Excel". The table has columns labeled A through S. Column A is "Course ID", column B is "Course Name", and column C is "Credits". The data includes:

A	B	C	
1	Course ID	Course Name	Credits
2	MATH101	Math	3
3	ENG102	English	4
4	HIST201	History	3
5	BIOLOGY1	BIOLOGY	4
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

The status bar at the bottom shows "Ready", "Accessibility: Unavailable", and the date/time "15-03-2025 02:35".

## 10. DELETE COURSE

localhost:8888/notebooks/WHOLE%20CODE.ipynb

jupyter WHOLE CODE Last Checkpoint: 42 minutes ago (unsaved changes)

Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```

2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Student
7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 10
Enter course ID to delete: HIST201
Course History (ID: HIST201) deleted successfully.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report

```

Type here to search

courses - Excel																
Tell me what you want to do																
File Home Insert Page Layout Formulas Data Review View Help Acrobat																
Paste	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font
Clipboard	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font	Font
A1	Course ID	Course Name	Credits													
1	MATH101	Math	3													
2	ENG102	English	4													
3	BIOLOGY1	BIOLOGY	4													
4																
5																
6																
7																
8																
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17																
18																
19																
20																

### a. deleting course that does not exists

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 20 hours ago (unsaved changes)

In [ ]:

```
if __name__ == "__main__":
    main()

8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 10
Enter course ID to delete: GEOGRAPHY1
Course not found.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
```

### 11. ADD GRADE

#### a. GRADE CSV BEFORE ADDING

The screenshot shows a Microsoft Excel window titled "grades - Excel". The "grades.csv" file is open, displaying a table with columns "Grade ID", "Grade", and "Marks Range". The data includes rows for G1 (Grade A, 90-100), G2 (Grade B, 80-89), G3 (Grade C, 70-79), G4 (Grade D, 60-69), and G5 (Grade F, 0-40). A warning message at the bottom left states: "POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format." The Excel ribbon tabs are visible at the top, along with various toolbars and status bar information.

The screenshot also shows a Jupyter Notebook interface running on localhost:8888. The notebook title is "jupyter WHOLE CODE" and the last checkpoint was 44 minutes ago (unsaved changes). The code cell contains a Python script for managing student records. The output pane shows the execution of the script, including a menu of 19 options, user input for choice 11 (Enter grade ID: G6), user input for marks range (Enter marks range: 50-60), and confirmation (Grade E (ID: G6) added successfully.).

## b. GRADE CSV AFTER ADDING

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Grade ID	Grade	Marks Range															
2	G1	A	90-100															
3	G2	B	80-89															
4	G3	C	70-79															
5	G4	D	60-69															
6	G5	F	0-40															
7	G6	E	50-60															
8																		
9																		
10																		
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12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		

## 12. DELETE GRADE

```

main()

11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 12
Enter grade ID to delete: G6
Grade E (ID: G6) deleted successfully.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Courses

```

### a. GRADE CSV AFTER DELETING

Grade ID	Grade	Marks Range
G1	A	90-100
G2	B	80-89
G3	C	70-79
G4	D	60-69
G5	F	0-40

### b.deleting grade which is not present

```

5. Display Grade Report
6. Add New Student
7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 12
Enter grade ID to delete: G10
Grade not found.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Student
7. Delete Student
8. Update Student Record

```

## 13. MODIFY GRADE

### a. GRADE CSV BEFORE MODIFYING

The screenshot shows a Microsoft Excel spreadsheet titled "grades - Excel". The table has columns labeled "Grade ID" and "Grade" with corresponding "Marks Range". The data is as follows:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Grade ID	Grade	Marks Range																
2	G1	A	90-100																
3	G2	B	80-89																
4	G3	C	70-79																
5	G4	D	60-69																
6	G5	F	0-40																

### b. GRADE CSV AFTER MODIFYING

The screenshot shows a Microsoft Excel spreadsheet titled "grades - Excel". The table has columns labeled "Grade ID" and "Grade" with corresponding "Marks Range". The data is as follows:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Grade ID	Grade	Marks Range																
2	G1	A	90-100																
3	G2	B	80-89																
4	G3	C	70-79																
5	G4	S	50-60																
6	G5	F	0-40																

c.modifying grade which is not present

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 20 hours ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help

Trusted Python 3

Code

```
--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Student
7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 13
Enter grade ID to modify: G10
Grade not found.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
```

Type here to search 13°C 16:11 ENG 17-03-2025

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: an hour ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help

Trusted Python 3

Code

```
if __name__ == "__main__":
    main()

11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 13
Enter grade ID to modify: G4
Enter new grade: S
Enter new marks range: 50-60
Grade G4 has been modified successfully.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
```

Type here to search 8°C 02:49 ENG 15-03-2025

## 14.ADD PROFESSOR

### a. PROFESSOR CSV BEFORE ADDING

professors - Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Professor	Email	Rank	Course ID															
2	Dr. Adam	adam.pro	Professor	MATH101															
3	Dr. Linda	linda.prof	Assistant	ENG102															
4	Dr. Robert	robert.prc	Professor	HIST201															
5	Dr. Param	param@g	Professor	DATA200															
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			

## b.PROFESSOR CSV AFTER ADDING

professors - Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Professor	Email	Rank	Course ID															
2	Dr. Adam	adam.pro	Professor	MATH101															
3	Dr. Linda	linda.prof	Assistant	ENG102															
4	Dr. Robert	robert.prc	Professor	HIST201															
5	Dr. Param	param@g	Professor	DATA200															
6	Eshita	Eshita@gr	Professor	CHEM14															
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			

## 15. DELETE PROFESSOR

The screenshot shows a Jupyter Notebook interface with the title "jupyter WHOLE CODE". The notebook contains the following code and output:

```
File Edit View Insert Cell Kernel Widgets Help
Run Cell Code
6. Add New Student
7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 15
Enter professor's email to delete: Eshita@gmail.com
Professor Eshita (Email: Eshita@gmail.com) deleted successfully.

--- Professor Menu ---
1. Register
```

Below the code cell, there are three input fields labeled "In [ ]:".

### a.PROFESSOR CSV AFTER DELETING

The screenshot shows an Excel spreadsheet titled "professors". The data is as follows:

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	Professor	Email	Rank	Course ID														
2	Dr. Adam	adam.professor	Professor	MATH101														
3	Dr. Linda	linda.prof	Assistant	ENG102														
4	Dr. Robert	robert.professor	Professor	HIST201														
5	Dr. Param	param@g	Professor	DATA200														
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		

### b.Deleting unregistered professor

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 20 hours ago (autosaved)

Logout

Notebook saved Trusted Python 3

File Edit View Insert Cell Kernel Widgets Help

8. Update Student Record  
9. Add New Course  
10. Delete Course  
11. Add Grade  
12. Delete Grade  
13. Modify Grade  
14. Add New Professor  
15. Delete Professor  
16. Modify Professor Details  
17. Search by Student  
18. Sort by Student Marks  
19. Back to Main Menu  
Enter your choice: 15  
Enter professor's email to delete: rakshita@gmail.com  
Professor not found.

--- Professor Menu ---  
1. Register  
2. Login  
3. Display Professor Details  
4. Display Student Records  
5. Display Grade Report  
6. Add New Student  
7. Delete Student  
8. Update Student Record  
9. Add New Course  
10. Delete Course  
11. Add Grade  
12. Delete Grade  
13. Modify Grade  
14. Add New Professor  
15. Delete Professor  
16. Modify Professor Details  
17. Search by Student  
18. Sort by Student Marks  
19. Back to Main Menu

Type here to search

## 16.Modify Professors Details

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: an hour ago (unsaved changes)

Logout

Trusted Python 3

File Edit View Insert Cell Kernel Widgets Help

7. Delete Student  
8. Update Student Record  
9. Add New Course  
10. Delete Course  
11. Add Grade  
12. Delete Grade  
13. Modify Grade  
14. Add New Professor  
15. Delete Professor  
16. Modify Professor Details  
17. Search by Student  
18. Sort by Student Marks  
19. Back to Main Menu  
Enter your choice: 16  
Enter professor's email to modify details: param@gmail.com  
Enter new name (leave blank to keep current): paramdeep  
Enter new rank (leave blank to keep current): director  
Enter new course ID (leave blank to keep current):  
Professor paramdeep's details updated successfully.

--- Professor Menu ---  
1. Register  
2. Login  
3. Display Professor Details  
4. Display Student Records  
5. Display Grade Report  
6. Add New Student  
7. Delete Student  
8. Update Student Record

Type here to search

### a.Professors CSV file after modifying

The screenshot shows a Microsoft Excel spreadsheet titled "professors - Excel". The table has columns labeled "Professor Name", "Email", "Rank", and "Course ID". The data includes:

	Professor Name	Email	Rank	Course ID
1	Dr. Adam	adam.pro	Professor	MATH101
2	Dr. Linda	linda.prof	Assistant	ENG102
3	Dr. Robert	robert.prc	Professor	HIST201
4	paramdeep	param@g	director	DATA200

### b.modifying professor which is not available

```

jupyter WHOLE CODE Last Checkpoint: 20 hours ago (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help Trusted Python 3
In [ ]:
In [ ]:
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu
Enter your choice: 16
Enter professor's email to modify details: rakshita@gmail.com
Professor not found.

--- Professor Menu ---
1. Register
2. Login
3. Display Professor Details
4. Display Student Records
5. Display Grade Report
6. Add New Student

```

### 17. Search by Student

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 4 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
File + < > Run Cell Code
```

```
if __name__ == "__main__":
    main()

14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu

Enter your choice: 17
Enter student email to search: Joshita1@gmail.com
Student: Joshita Atmakuri
Email: Joshita1@gmail.com
Courses and Grades:
Course: History, Grade: A
Course: Math, Grade: C
Course: English, Grade: A
Time taken to search: 0.000000 milliseconds

--- Professor Menu ---
1. Register
2. Login
```

In [ ]:

Type here to search

### a.searching student which is not available

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 20 hours ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

```
File + < > Run Cell Code
```

```
if __name__ == "__main__":
    main()

7. Delete Student
8. Update Student Record
9. Add New Course
10. Delete Course
11. Add Grade
12. Delete Grade
13. Modify Grade
14. Add New Professor
15. Delete Professor
16. Modify Professor Details
17. Search by Student
18. Sort by Student Marks
19. Back to Main Menu

Enter your choice: 17
Enter student email to search: rakshita@gmail.com
Student not found.

Time taken to search: 0.223875 milliseconds

--- Professor Menu ---
1. Register
```

In [ ]:

Type here to search

### 18. Sort by Student Marks

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 3 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help

main()

16. Modify Professor Details  
17. Search by Student  
18. Sort by Student Marks  
19. Back to Main Menu  
Enter your choice: 18  
Students sorted by marks.  
Melissa Coleman - Average Grade: 4.00  
Richard Strickland - Average Grade: 4.00  
Michael Spencer - Average Grade: 4.00  
Traci Moore - Average Grade: 4.00  
Michael Anderson - Average Grade: 4.00  
Laura Leon - Average Grade: 4.00  
Natalie Molina - Average Grade: 4.00  
Wayne Ware - Average Grade: 4.00  
William Howard - Average Grade: 4.00  
Manuel Gould - Average Grade: 4.00  
Holly Scott - Average Grade: 4.00  
Srilakshmi NarayanaMurthy - Average Grade: 3.67  
Gavin Adams - Average Grade: 3.67  
Michael Tucker - Average Grade: 3.67

In [ ]:

Type here to search

localhost:8888/notebooks/WHOLE%20CODE.ipynb#

jupyter WHOLE CODE Last Checkpoint: 3 minutes ago (unsaved changes)

File Edit View Insert Cell Kernel Widgets Help

main()

Michael Baker - Average Grade: 1.67  
Jason Turner - Average Grade: 1.67  
Ronald Brown - Average Grade: 1.67  
Marissa Jones - Average Grade: 1.67  
Gregory Moran - Average Grade: 1.67  
Donald Nunez - Average Grade: 1.67  
Makayia Diaz - Average Grade: 1.67  
Michelle Bell - Average Grade: 1.67  
Timothy Collins - Average Grade: 1.67  
Kyle Torres - Average Grade: 1.67  
Courtney Howard - Average Grade: 1.67  
Courtney Goodman - Average Grade: 1.67  
Randall Collins - Average Grade: 1.67  
Ann Davidson - Average Grade: 1.67  
Andrea Dominguez - Average Grade: 1.67  
Ann Murray - Average Grade: 1.67  
Dylan Solis - Average Grade: 1.67  
Thomas Thomas - Average Grade: 1.67  
Whitney Rodriguez - Average Grade: 1.67  
Jessica Robinson - Average Grade: 1.67

In [ ]:

Type here to search

The screenshot shows a Jupyter Notebook interface running on localhost:8888. The notebook title is "WHOLE CODE" and it shows the last checkpoint was 3 minutes ago with unsaved changes. The menu bar includes File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. The toolbar has icons for file operations like Open, Save, and Run, along with a Code dropdown. On the right, there are buttons for Trusted, Python 3, Logout, and a refresh icon. The main content area displays a list of student records:

```
John Perez - Average Grade: 0.33
Melissa Drake - Average Grade: 0.33
Linda Phillips - Average Grade: 0.33
Richard Gray - Average Grade: 0.33
Jeffrey Castro - Average Grade: 0.33
Erin Tran - Average Grade: 0.33
Amanda Miller - Average Grade: 0.33
Angelica Ray - Average Grade: 0.33
Denise Bentley - Average Grade: 0.33
Tina Johnson - Average Grade: 0.33
Paul Warren - Average Grade: 0.33
Brian Newton - Average Grade: 0.33
Crystal Johnson - Average Grade: 0.33
Erica Walter - Average Grade: 0.00
Isabella Hartman - Average Grade: 0.00
Michael Morse - Average Grade: 0.00
Kyle Thomas - Average Grade: 0.00
Nicole Stark - Average Grade: 0.00
Joshua Patel - Average Grade: 0.00
Bonnie Tran - Average Grade: 0.00
```

The bottom of the screen shows a Windows taskbar with various pinned icons and system status information.

TESTING- Since testing is a separate python file, I ran in VS CODE. Time taken is 2.66s.

The screenshot shows VS Code with the workspace titled "LAB1". The Explorer sidebar lists files including "student\_app.ipynb", "test\_student", and "Untitled30.py". The "Untitled30.py" tab is active, displaying a Python unit test script:

```
test_student > ...
1 import unittest
2 from WHOLECODE import Student, Course, Professor, Grades, LoginUser # Replace 'your_module' with the actual module name
3
4 class TestStudent(unittest.TestCase):
5     def setUp(self):
6         self.student = Student("John", "Doe", "john.doe@example.com", ["Math", "Science"], ["A", "B"], [95, 88])
7
8     def test_display_records(self):
9         # Capture the printed output
10        import io
11        import sys
12        captured_output = io.StringIO()
13        sys.stdout = captured_output
14        self.student.display_records()
15        sys.stdout = sys.__stdout__
16
17        output = captured_output.getvalue()
18        self.assertIn("John Doe", output)
```

The "PROBLEMS" view shows several errors related to student email conflicts. The "OUTPUT" tab shows the test results:

```
Student with email student997@example.com already exists.
Student with email student998@example.com already exists.
Student with email student999@example.com already exists.
Student record for Jane Doe has been added successfully.
Student with email john.doe@example.com already exists.
.
.
.
Ran 3 tests in 2.666s
```

The status bar at the bottom indicates the code is run in Python 3.8.1, with file path PS C:\Users\Srilakshmi N Murthy\Desktop\MS 1st sem\sem 1 python\LAB1>, line 2, column 11, spaces: 4, and terminal output showing 13°C and 21:06.

### **HAS-A (Aggregation/Composition):**

- Student HAS-A list of Course IDs (aggregation). A student has an associated list of courses.
- Student HAS-A list of Grades (aggregation). A student has a list of grades.
- Professor HAS-A list of Course IDs (aggregation). A professor is associated with courses.
- Student HAS-A LoginUser (composition). A student has login credentials.
- DataStorage HAS-A list of Student, Course, Professor and LoginUser objects. It stores all the data.

### **② Data Storage Class:**

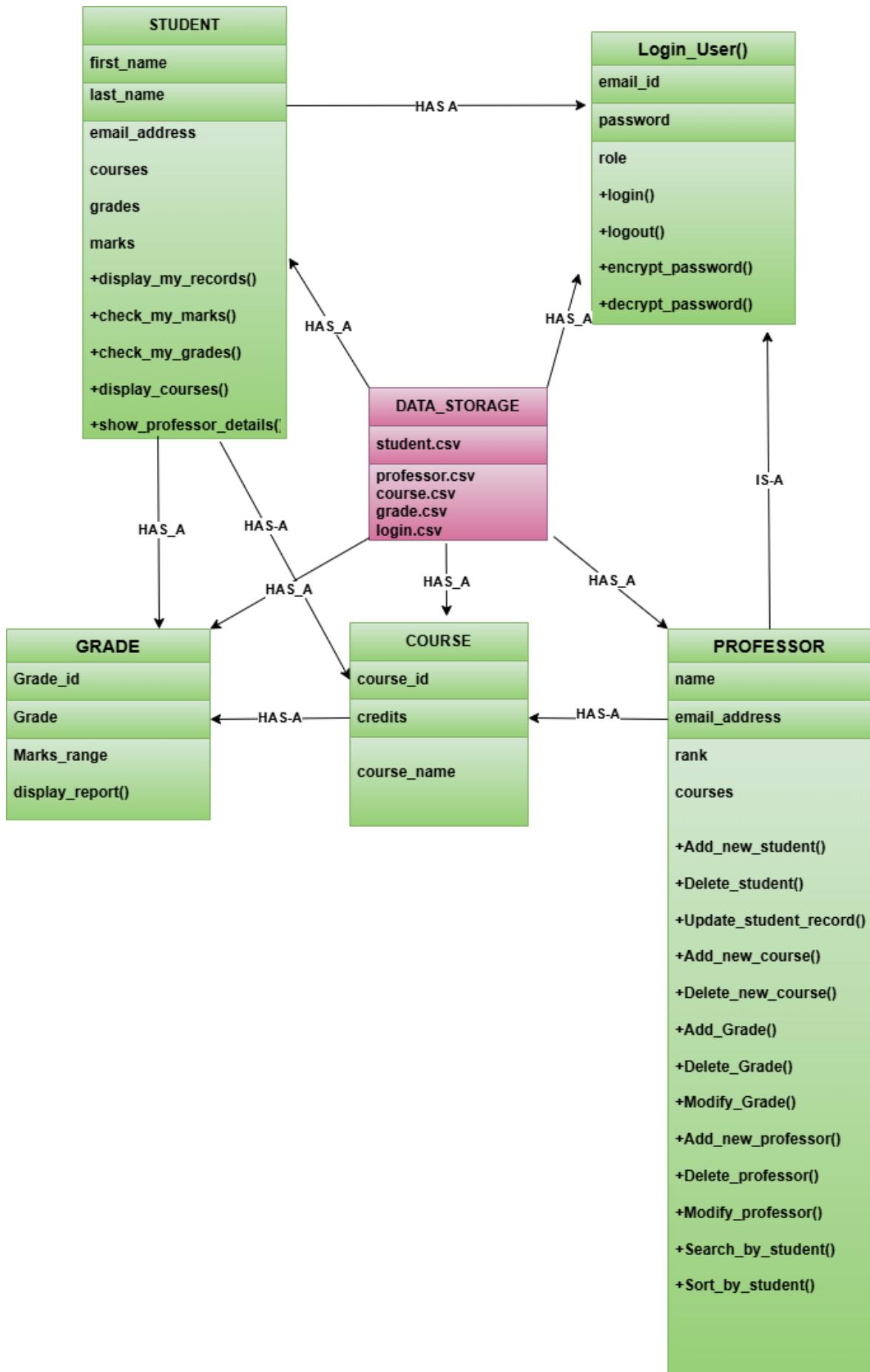
- A DataStorage class is introduced to handle all file I/O (CSV file reading and writing) and data manipulation tasks (searching, sorting, statistics). This separates the data management logic from the entity classes.
- The Data storage class also handles the average and median calculations.

### **③ CSV Files:**

- The CSV files (Student.csv, Course.csv, Professor.csv, Login.csv) correspond to the data members of the respective classes.

### **Multiplicity/Cardinality:**

- **Specify Relationships:** Use notation to specify the multiplicity (cardinality) of relationships. For example:
  - A Student HAS-A *many* Course objects (1 to many or 0 to many).
  - A Professor HAS-A *many* Course objects.
  - A Student HAS-A *many* Grade objects.
- **Notation:** Use standard UML notation for multiplicity (e.g., 1, 0..1, 1..\*, \*).



GITHUB LINK

<https://github.com/SrilakshmiNarayanaMurthy/Studentgradeapp>