# Algorithm:

## Login and Menu page:

Step 1: Start.

Step 2: Enter username and password. If username and password is incorrect, go to step 1.

Step 3: Menu is displayed. Ask user to enter choice. Choices are:

1. Add student.
2. Display all students.
3. Search student.
4. Edit student details.
5. Delete student details.
6. Exit.

Case 1: If the choice is a, or b, or c, or d, or e, the program jumps to algorithm B, or C, or D, or E or F respectively. While entering the option, only lowercase alphabets(a-f) are allowed.

Case 2: If the choice is f, ask user to enter Y or y for YES and any other character for NO.

1. If Y or y is entered, the program ends.
2. If any other character is entered, go to step 3.

Case 3: If the choice is any other character, go to step 3.

Step 4: Asks user to press any key to continue. Go to step 3.

Step 5: Stop.

1. Add students:

Step 1: Start.

Step 2: Ask user to enter name, id, course and semester, address, email, phone number, GPA and amount paid.

Step 3: Due amount is calculated as: due amount= total amount – paid amount.

Step 4: All the details are written in a file.

Step 5: Asks user whether to add another record or not. Press Y or y for YES and any other character for NO.

1. If Y or y is entered, go to step 2.
2. If any other character is entered, go to step 4 of login and menu page.

Step 6: Stop.

C) Display all students:

Step 1: Start.

Step 2: The program reads all the details from the file and display them, if any records are present. But if, there are no records available, "No records found" is displayed.

Step 3: Go to step 4 of login and menu page.

Step 4: Stop.

D) Search students:

Step 1: Start.

Step 2: Enter the id of the student you want to search.

Step 3: The program searches that id and the display the details if that id is found otherwise "record not found" is printed.

Step 4: Go to step 5 of login and menu page.

Step 5: Stop.

E) Edit student details:

Step 1: Start.

Step 2: Ask user to enter the id to edit.

Step 3: If the id is not found, "student with Id ….. not found" is displayed. Go to step 4 of login and menu page.

Step 4: A menu is displayed. Ask user to enter choice. Choices are:

1. Name
2. ID
3. Semester
4. Address
5. Email
6. Phone number
7. GPA
8. Paid amount
9. Exit

Case 1: If the choice is 1 or, 2 or, 3 or, 4 or, 5 or, 6 or, 7 or, 8, the value of the respective choice is overwritten by the recent value. And due amount = due amount – paid amount. Go to step 4.

Case 2: If the choice is 9:

1. If the details are updated, "student details updated successfully" is displayed.
2. If the details are not updated, "No updates were made" is displayed.

Go to step 4 of login and menu page.

Case 3: If any other character is entered, "Invalid choice", "Press any key to retry" are displayed. Go to step 4.

Step 5: Go to step 4 of login and menu page.

Step 6: Stop.

F) Delete student:

Step 1: Start.

Step 2: Ask user to enter id of student whose details is to be deleted.

Step 3: If the id is found, the program copies the details of all the students except the student matching the entered id, in temporary file. The old file is then removed and the temporary file is renamed to the name of that old file otherwise, "student with id ….. is not found" is displayed.

Step 4: Go to step 4 of login and menu page.

Step 5: Stop.