Steps to run the program :

1. Run json_load.py to load the josn file into the database.
2. Run main_program.py to run the main project "Library Management System".

Note :1. There is no need to run class_both_database.py as it is already imported in the main program

2. Please delete the database 'books_students.db' before loading the json file as it will lead the duplication of data.

How to operate the program

1. First run the load_json.py and main_program.py respectively.

2. Enter 1 for Admin menu

2 for Librarian menu

3 for exit

2. 1. If you select 1 then you wiil be taken to login page where you have to give username and password to enter into the admin menu.

Press 1. For sign in and

2. for login

2.1.1. If you press 1 then you have to give a new username and a valid password

2.1.2. If you press 2 then you have to give the correct username and password to enter to the Admin menu.

After entering correct username and password you will get 4 options :

1. Add/Delete/Modify Books

2. Add/Delete/Modify Students

3. List of books avilable in library(Total no of books or availablility) :

4. List of Students registered in Library

Select from the above to do the required thing

2.2. If you select 2 for librarian menu then you will get the following options

      1. List of books avilable in library

      2. Issues books to students

      3. Return Book

      4. Issued Book Details

      5. Details of Students taken Specific Book

 Select form the above to do the required thing

There are total five different files (programs):

1. **main_program.py :** This file contains all the menus and calling part of the functions from class_both_database.py . This is to be run for execution of the project

2. **class_both_database.py :** This file contains all the class required for the project. It contains all the functions within the class for execution. This is already imported in main_progarm.py so this need not to be run

3. **load_json.py :** This file loads the json file into the databse. This is to be run once for loading the json data.

4. **students.json :** This file contains data of the students.(Here name of the group members with required info is included as a json data.)

5. **books.json :** This file contains data of the books.

1. main_program.py :

This is the main program which contains following functions :

1. **decor()** : This function help to decorate the program menus

2. **validate_password()** : This check the correctness of the password

3. **login() :** This checks the authentication of the user. Also it creates new user.

4. **Admin() :** This takes the user to the admin menu after checking the authentication of the user through username and password.
5. **Librarian() :** This takes the user to the librarian menu.
6. **Add_delete_modify_books() :** this calls the required add/modify/delete function from the imported file class_both_database.py to add/delete/modify books.
7. **Add_delete_modify_students() :** this calls the required add/modify/delete function from the imported file class_both_database.py to add/delete/modify students.

2. **class_both_database.py**

This file contains all the required class and their functions.

This contains following class :

1. **User_pass**
2. **Students**
3. **Books**
4. **Issue_return**

1. User_pass class :

This class do the user authentication by asking password and username. And also creates new user.

1. **add_username() :** This creates new user id and password into the database.
2. **Check_user() :** This checks existing user id and password.

2. Students :

This class manages the Students record.

1. **add_student()** : This adds new students the database.
2. **delete_student() :** This deletes a particular student in the database.
3. **list_available_students() :** This gives information about the students registered in the library.
4. **Modify_student() :** This helps to modify the particular details of the particular student.

3. Books :

This class manages the Books record.

1. **add_book()** : This adds new books the database.
2. **delete_book() :** This deletes a particular book in the database.
3. **list_available_books() :** This gives information about the books registered and available in the library.
4. **Modify_book() :** This helps to modify the particular details of the particular book.

4. **Issue_return**

This class is used to issue and return books. This also show the details of books issued.

1. **Issue_books()** : This is used to issue books to the students.(max 2 unique books
2. **return_books() :** This is used to return the already issued books
3. **Book_issued() :** This is used to display details of all the books issued by the students
4. **specific_book_issued() :** This is used to show the details of students who issued a particular book.