

# **DSA OEL REPORT**

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**ROLL NO: CS – 031**

**BATCH: 2020**

**SEC: A**

**COURSE CODE: CS – 218**

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**DEPARTMENT: COMPUTER AND**

**INFORMATION SYSTEMS**

**ENGINEERING**

**PROJECT: IMPLEMENT A LIBRARY**

**MANAGEMENT SYSTEM**

## **REPORT:**

### **PROBLEM DESCRIPTION: -**

We are asked to create a Library Management System with the exquisite features:

- ➡ User can Register or Sign up or cancel membership.
- ➡ User can Search Books on the basis of:
  - Author
  - Title
  - Subject
  - Publication Date.
- ➡ User can add, delete or modify a book.
- ➡ User can reserve a book.
- ➡ User can checkout from library.
- ➡ User can renew a book.
- ➡ User can reserve a book.
- ➡ User can see whole collection of books.
- ➡ User can see sorted collection of books on the basis of Title of book.

Our Online Library is named “Classic Library” in which each function is created in order to enhance the ability of program to interact with user sufficiently and become more user-friendly.

## REGISTER:

In Register function, we have taken details of Username, Age, Password, and Email Id from the user and then a txt file named “Registered\_Accounts” is created. The information of the user then added to txt file and then the user is registered. If a user is already registered with Email Id, it cannot again register with the same Email Id.

## CANCEL MEMBERSHIP:

In order to use this feature, the user has to enter the Email Id and Password which he/she has used in registering the account. After checking the details by the system and approved, the membership of the user to the library will be cancelled. Otherwise, it will give error message to user.

## LOGIN:

In order to issue the book, the user has to login via entering his registered Email Id and Password. After checking, a login message will be displayed and the user can now issue, return and check out.

Another feature is introduced that after logging, the user will be welcomed by his username throughout all the online process.

## ADD BOOK:

Using the add book feature, the user can add book to the cart by entering the name of the book which is available in the library and can issue it when checking out.

## DELETE BOOK:

Using the delete book feature, the user can delete book from the cart by entering the name of the book which is present in your cart.

## MODIFY BOOK:

Using the modify book feature, the user can modify book to the cart by entering the name of the book which is available in the library and can issue it when checking out.

- **Main Point:**

In the Delete Book and Modify Book feature, an addition feature is introduced in both of them that if the cart is empty, the user cannot proceed further.

## SEARCH BOOK:

Using the feature, the user can search the book on the basis of Author name, Title of Book, subject and Publication Date by selecting the suitable key and the result will be according to successful search.

## RESERVE BOOK:

Using the feature, the user has to enter the name of the book and the book name is save to the txt file named according to “(User Email Id)\_Reservation”.

Each user has its own reservation file.

### RETURN BOOK:

Using the feature, the user can return the book which he/she had issued earlier and the book is being searched in the system in the txt file named “(User Email\_Id)\_Books\_Issue”. After the checking the details, the book will return and will be removed from the record of the user.

### RENEW BOOK:

In this feature, the user can reborrow the book by entering the name of the book which he/she has already checkout it.

### CHECKOUT:

Using this feature, the user can now checkout from library and the details of book name, issued date and issued time will be displayed to the user and the details of the books issued by the user will be saved to the txt file named “(User Email\_Id)\_Books\_Issue”.

### SEE WHOLE COLLECTION OF BOOKS:

Using this feature, user can see the whole collection of books with the details of Title of book, author name, subject and publication date in a beautiful designed and aligned UI.

## MERGE SORT:

Using the algorithm Merge sort, a sorting function is created in order to sort the list of books alphabetically on the basis Title of the book and then displays the result to the user.

## SOME IMPORTANT POINTS:

- ✓ The user cannot further proceed without logging.
- ✓ The app is made user interactive and user friendly in such a way to help the user to issue the book from our online library as much as possible.