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| --- | --- | --- | --- | --- | --- | --- | --- |
| Test Focus | Test Description | Pre and post cond. | Test steps | Test data | Expected results | Actual results | Test Result |
| Sign up | It allows student to make entry in the database if the registration number already exists in library database. | Username should be present in the database prior to the sign up.  On successful sign up redirect to index page | 1. Open browser. 2. Type [url: localhost:81/SE\_](url:localhost:81/SE_) to open the index page 3. click on the menu button on the top right corner of page. 4. It will open the list of available options. 5. Click on register to open log in/ sign up page. 6. Enter email-id, username, password, passing year is optional. 7. Click on sign up button | 1. Invalid e-mail, correct username 2. Valid e-mail, wrong username 3. Invalid e-mail, wrong username 4. Valid e-mail, valid username 5. Valid e-mail, valid username 6. Already signed up | Error  Error  Error  Sign up successful  Ignore and update from institute database.  Error | Error  Error  Error  Sign up successful  Ignore and update from institute database  Error | pass  pass  pass  pass  pass  Error |
| Log in | It will allow the students to log in to the system. Allows students to search, renew books. | Student must have signed in before. | 1. Open browser. 2. Type [url: localhost:81/SE\_](url:localhost:81/SE_) to open the index page 3. click on the menu button on the top right corner of page. 4. It will open the list of available options. 5. Click on register to open log in/ sign up page. 6. Enter username, password. 7. Click on Log in button | 1. Wrong username, correct password 2. Correct username, wrong password 3. Wrong username, wrong password 4. Correct username, correct password. | Error  Error  Error  Log in successful | Error  Error  Error  Log in successful | Pass  Pass  Pass  Pass |
| search | Search the books in library database | Books information must be entered by admin in database | 1. On index page scroll down little to see the services 2. **Or** click on menu button on top right corner of page to open options list, click on services 3. click on Library Management System 4. it will open new page 5. to see available books, click on List of Available Books option 6. to search book, enter the book name or part of it in text box and click on search 7. it will take you to the new page showing search result with available copies of books in library. | 1. Book available, 2. Book not available | Show list of books with available copies  Show message. | Show list of books with available copies  Show message. | Pass  Pass |
| Borrow | Admin will update the database to reflect the change that the student has borrowed a book. | Student should have registered in the database. | 1. Admin log in 2. Click on the menu button on right top corner of page and click on update 3. It will open new page with two options, update student database and update library database, click on update student database. 4. On the new opened page click on Edit Student Information 5. Now enter username and book name in the borrow section on the page and click borrow button. This will update the student database. | 1. Correct username, wrong book name 2. Wrong username, correct book name 3. Wrong username, wrong book name 4. Correct username, correct book name, copy available 5. Correct username, correct book name, no copy available | Error  Error  Error  Success  Error | Error  Error  Error  Success  Error | Pass  Pass  Pass  Pass  Pass |
| Return | Admin will update the database to reflect the change that the student has returned a book. | Student must have borrowed that book to return. | 1. Admin log in 2. Click on the menu button on right top corner of page and click on update 3. It will open new page with two options, update student database and update library database, click on update student database. 4. On the new opened page click on Edit Student Information 5. Now enter username and book name in the return section on the page and click return button. 6. If there is a fine, student have to pay fine first before return. On click of paid button on next page, fine becomes zero, now student can return book without any issue. | 1. Correct username, wrong book name, fine paid 2. Wrong username, correct book name, fine paid 3. Wrong username, wrong book name, fine paid 4. Correct username, correct book name, book borrowed, fine paid 5. Correct username, correct book name, book not borrowed 6. Correct username, correct book name, book borrowed, fine not paid | Error  Error  Error  Success  Error  Pay fine | Error  Error  Error  Success  Error  Pay fine | Pass  Pass  Pass  Pass  Pass  Pass |
| Read online and download | Allows anyone with url and internet to access uploaded pdf version of books for reading and downloading. |  | 1. On index page scroll down little to see the services 2. **Or** click on menu button on top right corner of page to open options list, click on services 3. click on Online Section 4. it will open new page with list of uploaded pdf books 5. click on book name to read book. On click it will open new page showing book content. 6. Download book by clicking down arrow on right top corner of the window showing pdf book. | 1. Book is available in folder | success | success | pass |
| Renew | Allows student to renew books from anywhere anytime. | Student should be logged in to renew book | 1. After log in, click on Menu button on right top corner of page and click on profile option. 2. It will open profile page which shows username, email id and list of borrowed books with renew date. 3. To renew book, click on renew button in front of book listed in borrowed book. 4. Next page shows successful renewal. | 1. Updated database correctly 2. Couldn’t update database | Success  Error | Success  Error | Pass  Pass |
| Add student | Add students to library database to make them able to use the system. | Student entry should be there in institute database. | 1. Admin log in 2. Click on the menu button on right top corner of page and click on update. 3. It will open new page with two options, update student database and update library database, click on update student database 4. Click on Add Student to Database option 5. Enter single value or multiple values separated by commas and click on Add. | 1. Correct student registration numbers 2. Wrong student registration numbers | Success  Error | Success  Error | Pass  Pass |
| Remove student | Remove students from database system. It removes manually entered as well as all the passed-out students from database | Student entry should be there in library database. | 1. Admin log in 2. Click on the menu button on right top corner of page and click on update. 3. It will open new page with two options, update student database and update library database, click on update student database 4. Click on Remove Student from Database option 5. Enter username to delete it from database 6. **OR** click on remove option to remove all passed out students | 1. Correct student registration number 2. Wrong student registration number | Success  Error | Success  Error | Pass  Pass |
| Add books | Add new books or update the number of copies available in the library |  | 1. Admin log in 2. Click on the menu button on right top corner of page and click on update 3. It will open new page with two options, update student database and update library database, click on update library database. 4. On the new opened page click on Books 5. Next page shows the text box to enter book name and number of copies. Click on update button to update database. 6. Available books can be checked by clicking on List of Available Books button | 1. If book already exists, update no. of copies 2. Update database for new entry. | Success  Success | Success  Success | Pass  Pass |
| Upload pdf books | Upload pdf books which are accessible by anyone |  | **For Admin log in**   1. Click on the menu button on right top corner of page and click on update 2. It will open new page with two options, update student database and update library database, click on update library database. 3. On the new opened page click on Online pdf 4. Next page shows the text box to enter book name and browse to the pdf. Click on update button to update database. 5. Available books can be checked by clicking on List of Available Books button   **For student log in**   1. Click on the menu button on right top corner of page and click on upload pdf 2. Next page shows the text box to enter book name and browse to the pdf. Click on update button to update database. 3. Available books can be checked by clicking on List of Available Books button | 1. Book already exists 2. New book entry | Error  Success | Error  Success | Pass  Pass |
| Keep backup | Keeping backup helps to restore system state. |  | 1. Admin log in 2. Click on the menu button on right top corner of page and click on Backup option 3. Next page shows the text box to enter file name to store data into. | 1. Kept successfully 2. Couldn’t keep backup | Success  Error | Success  Error | Pass  Pass |
| Restore backup | Restore the database to the previous state using the file used to keep backup | Backup must be kept in a file and file name should be known to admin | 1. Admin log in 2. Click on the menu button on right top corner of page and click on Backup option 3. Next page shows the text box to enter file name to restore data from. | 1. Restored successfully 2. Failed to restore | Success  Error | Success  Error | Pass  Pass |
| Contact | Contact admin for help, update or query. |  | 1. Click on Menu button on right top corner of page and click on contact option from the list. 2. It will open contact page which shows name, email id and subject and message 3. Enter name, email, subject and message. Message should be at least 15 characters. 4. Click on submit button. | 1. Invalid email, msg of length less than 15 characters 2. Valid email, msg of length less than 15 characters 3. Invalid email, msg of length more than 15 characters 4. Valid mail, msg of length more than 15 characters | Error  Error  Error  Success | Error  Error  Error  Success | Pass  Pass  Pass  Pass |
| Help | Basic functionality and contact information |  | 1. Click on Menu button on right top corner of page and click on help option from the list. 2. It will open help page which shows the preconditions required to use the system and all basic information about the system. 3. Admin contact is also given on the same page. |  |  |  |  |