# Library Application

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## Project Overview

This application serves as an online library management system. To make it run smoothly, we have created library, library item, book, periodical, author, patron, student, employee, and demo classes.

* The library class serves as the master list of all Library Items, Patrons and Authors. Use this class to view and edit all the available data in the system.
* The library item class is the main building block for any book or periodical in the library. It’s also how you would borrow or return a library item.
* The book class is a subclass of the library item class. It contains extra information specifically relevant to books.
* The periodical class is a subclass of the library item class. It contains extra information specifically relevant to periodicals.
* The author class allows you to create and edit an author and keep track of each library item the author has written.
* The patron class is the main building block for any library customer. It stores their personal information and the library items they have borrowed.
* The student class is a subclass of the patron class. It stores information relevant to only the patrons who are students.
* The employee class is a subclass of the patron class. It stores information that is relevant only to library employees.
* The demo class is the library application's main menu. It allows you to perform all the functions needed by the library management system.

## Installation Instructions

### Retrieving the Code from GitHub:

1. Go to <https://github.com/13Thornes/Spring2024Sprint1Java>

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1. Click on the green <> Code dropdown menu.

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1. Copy the https URL that appears.

### Cloning the GitHub repository in VSCode

1. Open a new window in VSCode.
2. Select the Source Control symbol in the menu on the left.

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1. Select the clone repository option.
2. Paste the GitHub URL you previously copied into the address bar at the top of the VSCode page.

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1. Select Clone from the URL.
2. Select which file you would like the code to be stored in on your local computer.

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1. Choose Select as Repository Destination

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1. Select Open.

### Running the Code in VSCode:

1. Select the Explorer option on the left menu.

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1. Select the Demo.java file from the side menu.

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1. Select the triangle play symbol in the upper right corner. This will open the terminal and run the program.

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Congratulations! You have Installed and started the library app.

## Usage Examples

### Adding an Item

* To add an item, type 1 in the terminal and press enter.
* You can use this feature to add a Library Item or Patron.

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1. Type LB into the terminal and press enter
2. Type in B for a book or P for a periodical and press enter
3. Type in Y if the author is already in the system or N for no, and press enter
   1. If yes:
      1. Type in the Author’s full name with no spaces and press enter
   2. If no:
      1. Type in the Author’s full name with no spaces and press enter
      2. Type in the Author’s date of birth and press enter
      3. The Author will be added to the library application
4. Type in the item ID and press enter
5. Type in the item title with no spaces and press enter
6. Type in ISBN and press enter
7. Type in the publisher with no spaces and press enter
8. Type in the number of copies and press enter
9. The following prompts depend on whether the item is a book or a periodical
   1. For a book:
      1. Type in P for a printed book, E for an eBook or A for an audiobook and press enter
      2. Type in the book genre with no spaces and press enter
   2. For a periodical:
      1. Type in P for a printed periodical or E for an electronic periodical and press enter
      2. Type in the issue number and press enter
10. You have officially added your library item

### Editing an Item

* Type in the number 2 and press enter to select edit Library Item
* You can edit a library item, patron or author

A screenshot of a computer

Description automatically generated

1. Type in LB for and press enter
2. Type in B for book or P for Periodical and press enter
3. Type in the name of what you want to edit with no spaces, and press enter
4. Type in the new ID and press enter
5. Type in the new title with no spaces and press enter
6. Type in the new ISBN and press enter
7. Type in the new number of copies and press enter
8. You have successfully edited the library item

### Deleting an Item

* Type in the number 2 and press enter to select edit Library Item
* You can edit a library item, patron or author

A screenshot of a computer

Description automatically generated

1. Type in LB and press enter.
2. Type in B for book or P for periodical and press enter
3. Type in the name of the item you want to remove with no spaces, and press enter
4. You have successfully removed the item

### Borrowing an Item

* Type in the number 3 and press enter to select Borrow Library Item
* You can borrow by searching by title, author or ISBN

A screenshot of a computer

Description automatically generated

1. Type in I and press enter.
2. Type in B for book or P for Periodical and press enter
3. Type in the ISBN of the periodical and press enter
4. The periodical you wish to borrow will be displayed
5. Type in Y to confirm that you want to borrow this periodical and press enter
6. Type in Y if the patron is already in the system, N if they are not, and press enter
   1. If the patron is in the system, type in the patron ID and press enter
   2. You will be prompted to create a new patron if a patron is outside the system. Please follow those steps.
7. Type in the number of copies you wish to borrow and press enter
8. You have successfully borrowed an item

### Returning an Item

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1. Type in the number 5 to return a library item and press enter
2. Type in the patron ID and press enter
3. A list of all items borrowed by the patron will appear
4. Type in the title of the item you would like to return with no spaces, and press enter
5. Enter the number of copies you would like to return, and press enter
6. You have successfully returned a library item

### Exiting the Program

1. Type in 6 to exit the program and press enter
2. You have successfully exited the program

## Database Example

Here is a mock-up of what we expect a database for this app to look like:

A diagram of a library database

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## Troubleshooting

1. For complete installation instructions, please refer to the installation guide provided in this document, which starts on page 3.
2. If you receive an error while attempting to use this software, an error message will provide you with what went wrong and encourage you to try again,
3. If you search for an item, it may tell you it cannot be found and bring you back to the main menu. In this case, check the list you are searching for to ensure the item is on the list. If it is not on the list, please use our add item function to add it to the system. If it is already in the system, please ensure you’re correctly typing the desired search criteria.

## Conclusion

Thank you for downloading and utilizing our Library App Software. We appreciate your role in making our project great. For any extra information, please contact our developers.