MidtermExam_SPEC

Input:

[number_of_book] // *following #number_of_book rows*

[book_author] [book_subject]

…

[number_of_user] // *following #number_of_user rows*

[user_type] [user_name] [predefined_borrow_book_number] /* *There will be a predefined number if user_type is Borrower.* */

…

// *command loop*

[Function]

Function and Output:

// *DO NOT* enter "input:" or print "output:"

1. [user_name1] addBook

input: [book_author] [book_subject]

output: Borrower can not add book // *if [user_name1] is a borrower*

2. [user_name1] removeBook [book_id]

output: Borrower can not remove book // *if [user_name1] is a borrower*

3. [user_name1] checkout [user_name2]

input: [book1_id] [book2_id]…

output: Borrower can not check out the books // *if [user_name1] is a borrower*

output: Can not check out since the number of books exceed the limitation of user can check-out /* *if the number of books is more than [predefined_borrow_book_number] of [user_name2]* */

output: Can not check out since the book is checked out /*if the book is checked out*/

4. [user_name1] return [book_id]

output: Borrower can not return book // *if [user_name1] is a borrower*

output: Can not return since the book isn't checked out /* *if the book is checked out* */

5. [user_name1] listAuthor [book_author]

output: ID: [book_id] Author: [book_author] Subject: [book_subject]

…

6. [user_name1] listSubject [book_subject]

output: ID: [book_id] Author: [book_author] Subject: [book_subject]

…

7. [user_name1] findChecked [user_name2]

output: Borrower can not find books checked out by other users /* *if [user_name1] is a borrower and [user_name1] is not [user_name2]* */

output: ID: [book_id] Author: [book_author] Subject: [book_subject] // *else*

…

8. [user_name1] Borrower [book_id]

output: User: [user_name]

output: Borrower can not find borrower // *if [user_name1] is a borrower*

9. For invalid inputs that are not mentioned above

output: Error

Comment:

[user_type] must be one of following:

    Staff

Borrower

[book_id] is an integer that starts from 0 and increases sequentially.

[predefined_borrow_book_number] limits the number of books a user can borrower at one time, not total.

You are asked to write a main function in Class LibrarySystem

We'll test your program through "*java LibrarySystem inputFile*"

e.g *java LibrarySystem sampleInput*

Sample input and output are in the folder.

Please show output to the standard output.

There should be access modifier in your design.

Group design must be submitted and the design file name should be *Team[ID]ClassDiagram.pptx*, e.g., *Team0ClassDiagram.pptx*.

Please zip your source code with the class diagram and upload it.

The file name should be *Team[ID].zip*, e.g., *Team0.zip*

The folder structure should be:

   unzip Team0.zip

=> *[dir] Team0*

=>   **.java*

=>   *Team0ClassDiagram.pptx*