CSIS 2175

Due date: Feb 21, 2022, 17:00

Submission

You need to zip the Eclipse project folder for submission

You may submit your work multiple times, but only the last submission will be graded.

*Tutorial for zipping a folder:
    https://www.youtube.com/watch?v=Ipn-T5Um3d4 for Windows
    https://www.youtube.com/watch?v=V0wkG6zOpjA for Mac

Description

You are asked to implement a console application in Java. The application supports a number of functions stated below. The book information is stored in an input file. The format of the input file is as follows:

```
<title_1>,<authors_1>,<pages_1>
<title_2>,<authors_2>,<pages_2>
<title_3>,<authors_3>,<pages_3>
...
...
...
<title_n>,<authros_n>,<pages_n>
```

In the input file, each line contains the title **<title_1>,** the authors **<authors_1>**, and the number of pages **<pages_1>** separated by commas ("**,**"). Two samples input files *books1.txt* and *books2.txt* can be found in this question.

The console application supports the following functions:
1. Read book information from a file: The user can input the filename. The system then 1) removes all books stored in the program if any; 2) reads the book information from the file and store each book as a Book object in the program.
2. Show all book information: The system displays all books stored in the program. This function will only be invoked after reading the book information in 1.
3. Find books by title: The user can input a search key. The system then displays all those books whose titles contain the key ignoring the cases.

Sample Run of Program

The followings show two sample runs of the program.

Sample Run#1 (Green text refers to user input)

```
Welcome to Book Info. System.
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> R
Enter the filename >> books1.txt
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> S
Book #1:
Title: The C# Programming Yellow Book: Learn to program in C# from
first principles
Authors: Rob Miles
Pages: 222
Book #2:
Title: The Art of Computer Programming (Volumes 1-4A)
Authors: Donald E. Knuth
Pages: 3168
Book #3:
Title: Learn Java: A Crash Course Guide to Learn Java in 1 Week
Authors: Timothy C. Needham
Pages: 178
Book #4:
Title: Flutter For Beginners: A Genius Guide to Flutter App
Development
Authors: Edward Thornton
Pages: 272
Book #5:
Title: Baby Loves Coding!
Authors: Ruth Spiro - Irene Chan
Pages: 22
Book #6:
Title: The Book of R: A First Course in Programming and Statistics
Authors: Tilman M. Davies
Pages: 832
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
```

```
(E)xit
Enter your option >> F
Enter the key >> program
Book #1
Title: The C# Programming Yellow Book: Learn to program in C# from
first principles
Authors: Rob Miles
Pages: 222
Book #2
Title: The Art of Computer Programming (Volumes 1-4A)
Authors: Donald E. Knuth
Pages: 3168
Book #3
Title: The Book of R: A First Course in Programming and Statistics
Authors: Tilman M. Davies
Pages: 832
3 records found.
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> F
Enter the key >> CODING
Book #1
Title: Baby Loves Coding!
Authors: Ruth Spiro - Irene Chan
Pages: 22
1 records found.
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> F
Enter the key >> code
0 records found.
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> R
Enter the filename >> books2.txt
Please select an option:
(R)ead books from file
```

```
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> S
Book #1:
Title: Night Night Farm
Authors: Roger Priddy
Pages: 20
Book #2:
Title: Just Go to Bed (Little Critter)
Authors: Mercer Mayer
Pages: 24
Book #3:
Title: The Office: A Day at Dunder Mifflin Elementary
Authors: Robb Pearlman - Melanie Demmer
Pages: 40
Book #4:
Title: All by Myself (Little Critter)
Authors: Mercer Mayer
Pages: 24
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> F
Enter the key >> little
Book #1
Title: Just Go to Bed (Little Critter)
Authors: Mercer Mayer
Pages: 24
Book #2
Title: All by Myself (Little Critter)
Authors: Mercer Mayer
Pages: 24
2 records found.
Please select an option:
(R)ead books from file
(S)how all books
(F)ind books by title
(E)xit
Enter your option >> E
Thank you for using!
```

Additional Requirement and Assumption:

- **Zero marks will be given if the program is not able to compile.**
- You **MUST** create a class called **Book** to represent a book. This class must contain private instance variables called title, authors and pages, representing the title, authors and the number of pages of a book respectively.
- You **MUST** create an array of **Book** to store the books in the input file. You may assume there will be not more than 100 books.
- You **MUST** create a class called **BookInfoSys** which contains the main method to run the program.
- You may assume the user input must be valid.

Grading

Correctness of the program: 80%
Programming style/comment/clarity: 20%