Midterm Test

Instructor:	Emad Nasrallah
Class:	**MAD 3463**
Due Date:	Tuesday, Jan. 28
Percentage of Final Grade:	30%

INSTRUCTIONS FOR PROJECT

- Read the instructions carefully
- Read the rubric carefully
- This is a lab test
- You are free to open the book, google, previous examples
- Time 2 hours

TOTAL MARKS: 100 MARKS

Description:
We need to create a simulation for a library system that can save the book title and the number of available copies. (Note that if the number of available copies is 0 it means the book not available)
Suppose we let the user tell how many books need to enter their data.
After entering the book titles and status let the user choose what to do:

1. Borrow a book
2. Return a book

If the user wants to borrow a book, show a list of titles of all available books (available means the number of copies is more than 0) , and ask the user to enter the title of the required book. Then the system must find that book and subtract 1 from the available copies.
And print a message says "You are borrowing …….. (the book title).

If the user wants to returns a book, let him/her enter the book title, find the book and add 1 to its available copies, and show a message "the book is returned.

Then find and print how many books are there with available copies less than 5.
Then print our titles of any book that has no available copies.

The grading scheme

1. Creating and filling the required arrays — 10 marks
2. Create a method to find the book by its title — 15 marks
3. Create a method to find how many books with copies less than 5 — 15 marks
4. Create a method to print titles of books with no available copies — 15 marks
5. Do the "Borrow a book" correctly
    a. Show list of book titles with available copies — 10 marks
    b. Ask the user about the book title and get the user's input — 5 marks
    c. Find the required book — 5 marks
    d. Decrease the number of available copies, and show the message — 5 marks
6. Do the "Return a book" correctly
    a. Ask the user about the book title and get the user's input — 5 marks
    b. Find the required book — 5 marks
    c. Increase the number of available copies, show the message — 5 marks
7. The structure of the program as overall — 5 marks

Note: If the program can't run due to errors, exceptions or any reason you lose 50% of the total