CSCA20 Fall 2024 Term Test #1
Duration — 1 hours and 50 minutes
Aids allowed: Open Book, 1 Electronic
device running Wing 101, NO
INTERNET CONNECTION

Read and follow all instructions on this page, and fill in all fields appropriately. Do **not** turn this page until you have received the signal to start. If you use any space for rough work, indicate clearly what you want marked. Write as clearly and legibly as possible. No marks will be awarded to unreadable answers.

Skills Demonstrated

	User I/O	Loops	Selection	Strings/Lists	Functions	Documentation	Testing
Q1							
Q2							
Q3							
Total							

```
--- Sample run #1
How many books did you read this year? 7
How many pages were in book 1: 200
How many pages were in book 2: 300
How many pages were in book 3: -1
You read 2 books
You read 500 pages

--- Sample run #2
How many books did you read this year? 3
How many pages were in book 1: 200
How many pages were in book 2: 300
How many pages were in book 3: 700
You read 3 books
You read 1200 pages
```

Question 1.

Completion of this question demonstrates the skills of: User I/O, Loops

In the space below, write a program that asks the user for the number of books they read this year. The program will then ask the user for the number of pages in each book . The program will keep asking for the number of pages until the user gives pages for all books, or until they enter -1 as a number of pages. When the program is done, it should output the total number of books they read, and the total number of pages.

Two sample runs of the programs showing appropriate output and user input are provided on the opposite page. You may assume that the user will only ever provide valid input.

```
#add a few books to get us started
books_list = ['Weapons of Math Destruction', 'Stolen Focus', 'The Alignment Problem']

menu_prompt = """
Choose an option:
A = Add a new book to the list
D = Delete a book from the list
M = Move a book to a new place in the list
"""

while(True):
    #this will just let us modify the list forever, your code will go inside
    #this loop (feel free to write it on the opposite page though)
```

Question 2.

Completion of this question demonstrates the skills of: User I/O, Selection, Strings/Lists

In the space below, write a program lets the user create and maintain a ranked list of books. The code should prompt the user for an option using the string on the opposite page, then ask them for the position + name of the book they would like to add, position of the book they would like to delete, or old and new positions of the book they would like to move.

Your code should deal with the user giving wrong menu choices, or input values that don't make sense, but you can assume the input format will be correct (e.g., they will type in a number when asked for a number)

We need a function that takes in a list of books, like... the book titles, not the
books themselves... and then it should return a subset of those books, so, like
if the user says I want books from 3 to 7, it should return books number 3, 4, 5, 6 and 7
in the list. If someone gives the function bad inputs, like asking for books that
don't exist or negative values, or a start value greater than the end value, it should
print "ERROR" and just return the whole list. Oh, and by the way, I don't get the
whole "counting from zero" thing, so if I want the first book in the list, I want to say
book 1, not book zero in the inputs.

Question 3.

Completion of this question demonstrates the skills of: Strings/Lists, Functions, Documentation, and Testing

On the opposite page is the text of an e-mail your boss has asked you to write. In the space below, write the function. Ensure that your function includes a comment at the top clearly (being much clearer than your boss) explaining its inputs, outputs, and usage including any limitations, and also that you provide adequate assert statements to test your function.

End of Test