**Project 9B: Pseudo Code**

Mainmenu.cpp

Create class declared bookData with following members:

bookTitle array of characters, 51 columns.

isbn as an array of characters, 14 columns.

author as an array of characters, 31 columns.

publisher as an array of characters, 31 columns.

dateAdded as an of characters, 11 columns.

As well as corresponding accessors and mutators for each private variable listed above

Declare global file stream object

**getTitle()**

Return booktitle variable

**getISBN()**

return isbn variable

**getAuthor()**

return author variable

**getPub()**

return publisher variable

**getQty()**

return qtyOnHand variable

**strUpper()**

Accept a point to a string as its argument.

While point does not equal null terminator, convert each character in the string to an uppercase letter.

**setTitle()**

Accept array of characters

Copy string to the bookTitle member of the array element specified by the subscript by prompting user input

Call strUpper function

Return value as void

**setISBN()**

Accept array of characters

Copy string to the isbn member of the array element specified by the subscript by prompting user input

Call strUpper function

Return value as void

**setAuthor()**

Accept array of characters

Copy string to the author member of the array element specified by the subscript by prompting user input

Call strUpper function

Return value as void

**setPub()**

Accept array of characters

of BookData objects

Copy string to the publisher member of the array element specified by the subscript by prompting user input

Call strUpper function

Return value as void

**setDateAdded()**

Accept array of characters

Copy string to the dateAdded member of the array element specified by the subscript by prompting user input

Call strUpper function

Return value as void

**setQty ()**

Accept integer variable

Copy string to the qtyOnHand member of the array element specified by the subscript by prompting user input

Return value as void

**setWholesale ()**

Accept double variable

Copy string to the wholesale member of the array element specified by the subscript by prompting user input

Return value as void

**setRetail ()**

Accept double variable

Copy string to the retail member of the array element specified by the subscript by prompting user input

Return value as void

**isEmpty()**

accepts an integer that will act as a subscript into the array of BookData object as its argument into the array of BookData objects as its argument.

If book length does not equal zero, increment the index. Return -1 if not empty spaces from.

Elase is the book length does not equal zero, and the index equals size minus 1, return -1;

Otherwise, return index.

**removeBook()**

accept an integer that will act as a subscript into the array of BookData object as its argment.

set first character of the bookTitle member (at specified index) to zero (null terminator) to remove book from inventory.

**Main()**

Set constant integer spaces equal to 7

Declare choice

Do-While choice is not equal to 4:

Display “Serendipity Booksellers”

Display "Main Menu";

Display "1. Cashier Module"

Display "2. Inventory Database Module"

Display "3. Report Module

Display "4. Exit"

Display "Enter Your Choice (1-4): "

Enter value (choice)

While value (choice) is greater than 4 or less than 1

Display “Please enter a number in the range 1-4”

Otherwise, “you selected item [value] will be displayed.

Using switch statement:

If choice [value] equals one, call function cashier.

If choice [value] equals two, call function invmenu.

If choice [value] equals three, call function reports.

End program

**bookMatch()**

call strUpper function for character array being compared

for as well as the size of the bookData array of structure

compare the titles within the array to that of the string being searched

call getTitle function for each loop

if part or all the title being searched is found return the index

otherwise, return integer -1

**Invmenu()**

Set constant integer spaces equal to 7

Declare choice

Do-While choice is not equal to 5:

Display “Serendipity Booksellers”

Display "Inventory Database";

Display "1. Look Up a Book"

Display "2. Add a Book"

Display "3. Edit a Book's Record"

Display "4. Delete a Book"

Display "5. Exit”

Display "Enter Your Choice (1-5): "

Enter value (choice)

While value (choice) is greater than 5 or less than 1

Display “Please enter a number in the range 1-5”

Otherwise, “you selected item [value] will be displayed.

Using switch statement:

If choice [value] equals one, call function lookupBook.

If choice [value] equals two, call function addBook.

If choice [value] equals three, call function editBook.

If choice [value] equals four, call function deleteBook.

If choice [value] equals five, display “You selected item 5. Exiting the program.”

**lookupBook()**

Display “you selected look up book”.

Display “enter the title of the book you wish to look up”

Call SearchFile function

if a title matches the one enter by the user, ask user if it’s the the correct book being searched

if yes, call bookInfo, passing corresponding Information.

If no, continue searching array.

Otherwise, display, “no match is found” and terminate.

**addBook()**

Display “you selected add book”.

Call isEmpty function, return integer index

If the inventory is empty, enter book title at said index using setTitle

Call strUpper()

Otherwise, once empty element is found, enter book title and corresponding information on same subscript for:

Call openFile()

Call addFileContents and read file data in appropriate BookData object members

Once file is done being read in, call isEmpty()

Call setISBN

Call strUpper()

Enter setAuthor

Call strUpper()

call setPub function

Call strUpper()

call setDateAdded function

Call strUpper()

Call setQty function

call setWholesale function

call setRetail function

If no empty element is found, display message that no more books may be dded to the inventory

Overwrite previously opened file with the array of BookData objects using function called writeToFile()

Terminate.

**editBook()**

Display “you selected edit book”.

Display “enter the title of the book you wish to look up”

Call searchFile function

if a title matches the one enter by the user, ask user if it’s the the correct book being searched

if yes, call bookInfo, passing corresponding Information.

If no, continue searching array.

Prompt user to see which fields they wish to edit.

Display field options.

Allow user to enter new values for fields selected.

Otherwise, display, “no match is found”.

Overwrite previously opened file with the array of BookData objects using function called writeToFile()

and terminate.

**deleteBook()**

Display “you selected delete book”.

Display “enter the title of the book you wish to delete”

Call SearchFile function

if a title matches the one enter by the user, ask user if it’s the the correct book being searched

if yes, call bookInfo, passing corresponding Information.

If no, continue searching array.

Prompt user to see which fields they wish to edit.

Display field options.

Allow user to enter new values for fields selected.

corresponding data Information.

Confirmed request for deletion.

Set found address for bookTitle and isbn array to null.

Overwrite previously opened file with the array of BookData objects using function called writeToFile()

then terminate.

otherwise, display, “no match is found” and terminate.

**Bookinfo()**

Set constant integer spaces equal to 7

Display “Serendipity Booksellers”

Display “Book Information";

Display following members of array of BookData objects

Display ISBN

Display Tilte

Display Author

Display Publisher

Display Date Added

Display Quantity-On-Hand

Display Wholesale Cost

Display Retail Price

**Reports()**

Set constant integer spaces equal to 7

Declare choice

Do While value (choice) does not equal 7

Display “Serendipity Booksellers”

Display "Reports";

Display "1. Inventory Listing"

Display "2. Inventory Wholesale Value"

Display "3. Inventory Retail Value"

Display "4. Listing by Quantity"

Display "5. Listing by Cost"

Display "6. Listing by Age"

Display "7. Return to Main Menu”

Display "Enter Your Choice (1-7): ";

Enter value (choice)

While value (choice) is greater than 7 or less than 1

Display “Please enter a number in the range 1-7”

Otherwise, “you selected item [value] will be displayed.

Using switch statement:

If choice [value] equals one, call function repListing.

If choice [value] equals two, call function repWholesale.

If choice [value] equals three, call function repRetail.

If choice [value] equals four, call function repQty.

If choice [value] equals five, call function repCost.

If choice [value] equals six, call function repAge.

If choice [value] equals seven, display “You selected item 7. Exiting the program.”

**repListing()**

Display “you selected Inventory Listing”.

Compute current time.

Display title, isbn, author, publisher, date, quantity on hand, wholesale cost and retail price.

If user presses key 9, continue onto the repwholesale().

Otherwise, exit the program.

**repWholesale()**

Display “you selected inventory wholesale”.

Compute current time.

Display title, isbn, quantity on hand, wholesale cost.

If user presses key 9, continue onto the repRetail().

Otherwise, exit the program.

**repRetail()**

Display “you selected Inventory retail value.”

Compute current time.

Display title, isbn, quantity on hand, and retail price.

If user presses key 9, continue onto the repQty().

Otherwise, exit the program.

**repQty()**

Display “you selected Listing by quantity.”

Compute current time.

Call QtySort function.

Display title, isbn, quantity on hand.

If user presses key 9, continue onto the repCost().

Otherwise, exit the program.

**repCost()**

Display “you selected listing by cost”.

Compute current time.

Call costSort function.

Display title, isbn, quantity on hand, and wholesale cost.

If user presses key 9, continue onto the repAge().

Otherwise, exit the program.

**repAge()**

Display “you selected listing by age”.

Compute current time.

Call dateSort function.

Display title, isbn, quantity on hand, and wholesale cost.

If user presses key 9, continue onto the main().

Otherwise, exit the program.

**Cashier()**

Set constant integer spaces equal to 7

Declare choice, date, quantity, isbn\_num, title, price, total, subtotal, taxes, percent\_tax

Do While value (another) equals char value ‘Y’ or ‘y’

Display “Serendipity Booksellers”

Display "Cashier Module";

Display and enter date

Display and enter quantity

Display and enter isbn number

Search inventory for isbn number by calling srtSearchISBN

If the number returned does not equal -1, the isbn has been found; as well as the book title and retail price.

If the quantity requested is less than or equal to the quantity on hand, substract the requested quantity from the amount on –hand.

Otherwise, display "There is not enough copies on-hand to fulfill purchase” and Exit th program.

Otherwise ask user to re-enter the isbn number. If user does not want to re-enter, exit the program.

Calculate individual book totals.

Calculate subtotal by multiplying quantity by price

Calculate taxes by multiplying subtotal by percent\_tax

Calculate total by adding subtotal and taxes together

Display “subtotal” and value (subtotal)

Display “taxes” and value (taxes)

Display “total” and value (total)

Display “Thank You for shopping at Serendipity!”

Display “Is there another transaction to be processed?”

Enter value (anotherTransaction)

While value (anotherTransaction) does not equal ‘Y’ or ‘y’ or ‘N’ or ‘n’

Display “Invalid answer. Please enter valid choice (Y=yes/N=no): “