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//Prog0
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//CIS200-01

// Program 0
// Starting Point

// File: LibraryBook.cs
// This file creates a simple LibraryBook class capable of tracking
// the book's title, author, publisher, copyright year, call number,
// and checked out status.

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

public class LibraryBook
{
    public const int DEFAULT_YEAR = 2015; // Default copyright year

    private LibraryPatron patron; // Create the person that has the book checked out

    private String _title; // The book's title
    private String _author; // The book's author
    private String _publisher; // The book's publisher
    private int _copyrightYear; // The book's year of copyright
    private String _callNumber; // The book's call number in the library
    private bool _checkedOut; // The book's checked out status

    // Precondition: None
    // Postcondition: The library book has been initialized with the specified
    // values for title, author, publisher, copyright year, and
    // call number. The book is not checked out.
    public LibraryBook(String theTitle, String theAuthor, String thePublisher,
        int theCopyrightYear, String theCallNumber)
    {
        // Establish default first in case invalid
        CopyrightYear = DEFAULT_YEAR;

        Title = theTitle;
        Author = theAuthor;
        Publisher = thePublisher;
        CopyrightYear = theCopyrightYear;
        CallNumber = theCallNumber;

        ReturnToShelf(); // Make sure book is not checked out
    }

    public String Title
    {
        // Precondition: None
        // Postcondition: The title has been returned
        get
        {

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        return _title;
    }

    // Precondition: None
    // Postcondition: The title has been set to the specified value
    set
    {
        _title = value;
    }
}

public String Author
{
    // Precondition: None
    // Postcondition: The author has been returned
    get
    {
        return _author;
    }

    // Precondition: None
    // Postcondition: The author has been set to the specified value
    set
    {
        _author = value;
    }
}

public String Publisher
{
    // Precondition: None
    // Postcondition: The publisher has been returned
    get
    {
        return _publisher;
    }

    // Precondition: None
    // Postcondition: The publisher has been set to the specified value
    set
    {
        _publisher = value;
    }
}

public int CopyrightYear
{
    // Precondition: None
    // Postcondition: The copyright year has been returned
    get
    {
        return _copyrightYear;
    }

    // Precondition: value >= 0
    // Postcondition: The copyright year has been set to the specified value
    set
    {

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        if (value >= 0)
            _copyrightYear = value;
    }
}

public String CallNumber
{
    // Precondition: None
    // Postcondition: The call number has been returned
    get
    {
        return _callNumber;
    }

    // Precondition: None
    // Postcondition: The call number has been set to the specified value
    set
    {
        _callNumber = value;
    }
}

// Precondition: None
// Postcondition: The book is checked out
public void CheckOut(LibraryPatron patronName)
{
    _checkedOut = true;
    patron = patronName;
}

// Precondition: None
// Postcondition: The book is not checked out
public void ReturnToShelf()
{
    _checkedOut = false;
    patron = null; //Null shows book that no longer belongs to patronName
}

// Precondition: None
// Postcondition: true is returned if the book is checked out,
//                otherwise false is returned
public bool IsCheckedOut()
{
    return _checkedOut;
}

//Precondition: IsCheckedOut() == true
//Postcondition: Patron has returned the item
public LibraryPatron Patron()
{
    return patron;
}

// Precondition: None
// Postcondition: A string is returned presenting the library book's data on
//                separate lines
public override string ToString()
{

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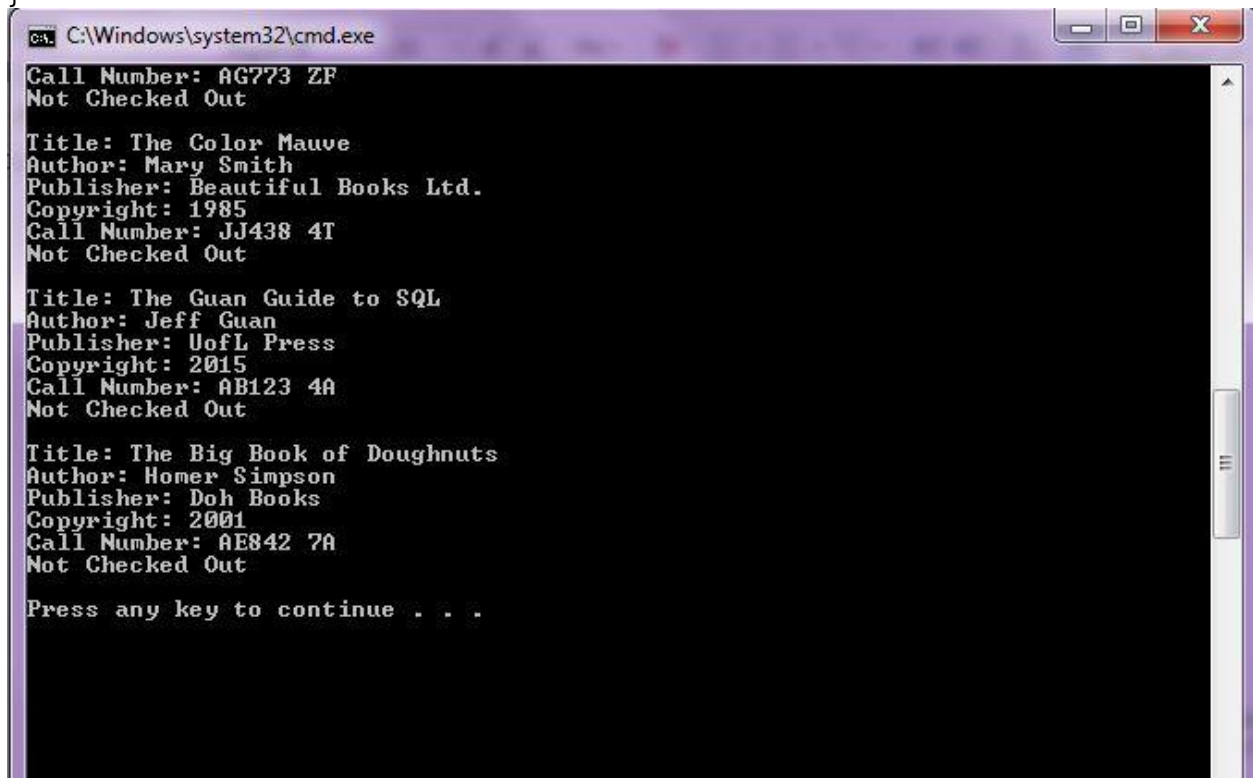
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String bookStatus; //Holds status

bookStatus = String.Format("Title: {0}{5}Author: {1}{5}Publisher: {2}{5}" +
    "Copyright: {3:D4}{5}Call Number: {4}{5}",
    Title, Author, Publisher, CopyrightYear, CallNumber, Environment.NewLine);

if (IsCheckedOut())
    bookStatus += String.Format("Checked Out By: {1}{0}", Patron(),
Environment.NewLine);
else
    bookStatus += "Not Checked Out";
return bookStatus;
}
}

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C:\Windows\system32\cmd.exe
Call Number: AG773 ZF
Not Checked Out

Title: The Color Mauve
Author: Mary Smith
Publisher: Beautiful Books Ltd.
Copyright: 1985
Call Number: JJ438 4T
Not Checked Out

Title: The Guan Guide to SQL
Author: Jeff Guan
Publisher: UofL Press
Copyright: 2015
Call Number: AB123 4A
Not Checked Out

Title: The Big Book of Doughnuts
Author: Homer Simpson
Publisher: Doh Books
Copyright: 2001
Call Number: AE842 7A
Not Checked Out

Press any key to continue . . .

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