h1050 Programming Logic

Lab 7 (20 points total)

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*Please paste all of your code into this Word document and submit a single Word document for your solution. Please enter your answers in bolded or a different color font, so they’re easy to find - thanks! Note that the PowerPoint and the MSDN website resource on Object-Oriented Programming for this week might be helpful.*

1. Create a class called Book defines properties Title, Author and Year. Add a method called Display() that outputs the Title and Author (4 points)

using System;

namespace Lab\_7\_Submit

{

class Book

{

private string Title;

private string Author;

private int Year;

public Book( string Title, String Author, int Year)

{

this.Title = Title;

this.Author = Author;

this.Year = Year;

}

public void Display()

{

Console.WriteLine("{0} written by {1} in {2}\n", Title, Author, Year);

}

}

}

1. Create a class called BookTest that uses an object initializer to create an object of class Book (from step 1) and initialize all of its properties. Note: you will need to create a constructor method to do this (4 points)

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Lab\_7\_Submit

{

class BookTest

{

static void Main(string[] args)

{

Book myBook = new Book("Percy Jackson and The Olympians: The Lightning Thief",

"Rick Riordan", 2005);

myBook.Display();

}

}

}

*Answer the following in essay form:*

1. Before adding a constructor method, describe what is called when we create an instance of type Book? (2 points)

**Before adding a constructor method, the private strings are created and called when we create an instance of type book.**

1. What concept would we be practicing if we created two new constructor methods? (2 points)

**Constructor overloading is the practice of creating more than one constructor method. We would do this if we needed to set different parameters.**

1. Why is it important to use exception handling? (2 points)

**It is important to use exception handling to assist in handling runtime errors and normalize the flow of the application.**

1. What’s the purpose of private vs. public when we’re adding new properties and/or methods to our class? How does this apply to information hiding? (2 points)

**The purpose of private and public class’s when adding properties and/or methods to our class is to determine what information should be shared throughout the program or only be used in the declared method. This restriction of direct access is referred to as information hiding.**

1. What is composition? How could we use Composition in our Book class? (2 points)

**Composition allows one class to be contained in another, which allows references to objects of other classes as members. Composition is also referred to as a Has-A relationship. We could use a get accessor to pull members from one class to the other.**

1. What is data abstraction? (2 points)

**Data abstraction refers to the client caring about the functionality a class offers rather than how the functionality is implemented. Programmers should not write code that depends on the details of how a program is written because the details may change later in the program.**