Scalable Data Infrastructures - Code Exercise 02

Overview

Now that you know a little something about data and how it's gathered, stored, and output, you're going to do some of that yourself.

Instructions

You'll be creating a new project using Visual Studio for Mac. Your project should follow the proper naming convention of LastName_FirstName_CE02. When you compress the project into a zip file, the zip file name should also follow the same naming convention.

Task the First

Very few programmers start by creating code. So, your first task in this activity is to create a **problem analysis**. Read through the tasks below and create a document that contains a bulleted list of what you need to do. This will give you a step-by-step list of what your code will require. You can then use this problem analysis to start creating your code. You will include this problem analysis in your submission as a compressed PDF.

Task the Second

Begin by creating at least three variables. Each variable should be of a different data type as follows:

- String
- Integer
- Boolean

Feel free to create more variables if you like. The values should be related in some way so that when they are output later, you can use them to tell a story or describe a task. It must be something more creative than just your name, your age, and your status as a student. Give it some thought. Seen a good movie lately? Use that as the basis of your data. Into video games? That could be used as the basis of the data as well.

Task the Third

Create outputs to show the variable values in some meaningful way. In other words, you need to concatenate the variable values with other text so that your output tells a story or describes a task. Your code should do this first; that is, your code should output the initial values of the variables you created before it does anything else.

Task the Fourth

In the code, create a ReadLine that you can use to change the value of your string variable. Then, using another ReadLine, also change the value of your integer variable. Remember that the ReadLine returns a string, so you'll have to convert the number to store it in your integer variable. Remember to include an output before each ReadLine statement so that a user understands what should be entered. After the values have been changed, create additional outputs to send these new values to the console. Do so in a way that helps to tell the story.

The code should now output the initial values of the variables, then allow the user to change the values of two of those variables, and then output the new variable values.

Once complete, compress the project into a zip file, use the naming convention indicated above, and upload it to this activity.

Deliverables

Upload your code and problem analysis as a compressed file.

Rubric: Code Exercise 2

Minimum Project Requirements

These requirements must be satisfied before any points are awarded. Failing to meet these requirements will result in a zero (0) grade.

- The submission must be in the proper format as defined in the FSO activity.
 The submission includes the problem analysis and the required code files.
 You will lose 5 points if the project does not follow the naming convention described in the activity's documentation.

Topic	%	Excellent (100%)	Acceptable (80%)	Good (50%)	Fair (25%)	Poor (0%)
Foundation: Technical						
Variables	10	All required variables are present, correctly declared and defined, with descriptive names using the camelCase naming convention.	Non-descriptive names or not using camelCase naming convention.	Missing one required variable or up to two declarations.	Missing more than one required variable or serious defects in declaration or definition.	No variables declared or values assigned.
Data Types	15	All required data types are present and used correctly.	Missing one required data type, or some confusion is shown.	Missing two required data types.	Missing more than two required data types.	Clear misunderstanding of data types.
Output	15	All required outputs are present.	Missing one required output.	Missing two required outputs	Missing more than two required outputs.	Outputs are not sent to the console.
ReadLine Setup	15	ReadLine is set up correctly, and all required inputs are present.	ReadLine is set up correctly, but one WriteLine is missing.	ReadLine is set up correctly, but more than one WriteLine is missing.		ReadLine is not used or is not set up properly.
All Inputs Gathered	15	All required inputs are gathered properly.	Missing one required input or data type is not converted correctly.	Missing more than one required input.	Input values are not converted to the proper data types.	Serious issues with data types or only string variables are created.
Foundation: Code						
Syntax	10	There are no syntax errors, including correct line and formatting according to the style taught.	There are no syntax errors, but the code does not follow the style taught.	Project code contains minor syntax errors but is easily fixed.	Project code contains more major syntax errors but are easily fixed.	Project code does not run.
Comments	10	Comments exist at the top of the code to include name, class and term, assignment, and date, and each line of the code is properly commented.	Missing the initial comments with name, class and term, assignment, and date, but the rest of the code is commented properly.	Missing up to four line comments, but some comments present.	Missing more than four comments	No comments in the code.
Problem Analysis						
Analysis Complete	10	Problem is broken down into a bulleted list and each point represents an aspect of the problem in a short, to-the-point statement.	Problem is broken down into a bulleted list, but list items are not restated in student's own words. The bulleted points are simply copied and pasted from the problem.		Problem is broken down into a list, but missing more than one important bullet point or more than one point listed in a single bullet item.	Problem is not broken down into a list, bulleted or otherwise.