CISS 160 Homework – Decision Structure Problems B

The grade you earn will be based on a number of factors, including overall quality/correctness/validity of your application, following the file naming guidelines, following the compressed folder guidelines (see below and Syllabus), and following the other guidelines such as comments for your name, programming comments, test cases etc.

General guidelines for each program:

> Include three comment lines within each program's Form1.cs file with your name, student id number, date, and goal/purpose of the program:

//Author: Your NAME

//ID: Your Student ID Number (NOT YOUR SOCIAL SECURITY NUMBER)

//Date:

//Goal-Purpose of the Program: (…your description…)

> within any program file where you write source code, include comments throughout your code describing in your own words, what the various sections of your code are doing; single line comments can be preceded by two forward slashes //COMMENT…

> for each program create a Text file in the folder where your project files are located and call it TestPlan.txt – edit that file for each program below to include a description of the details of your Testing approach and different specific 'Test Cases' that you performed to give yourself assurance that your program is valid/is working correctly; this can include validating data to be numeric, validating that required data was entered, exception handling, other tests to verify specific calculations, functionality, verifying User Interface events, comparing to another source (eg. used a calculator, Excel to compare) etc.

Write the C# programs described below:

> the requirements for each program will be described as a paragraph below OR the requirements will be represented as a compiled .exe of a program (note: this is not source code) that I include in the assignment folder so you can see a running version of how your program should work

> we will cover general aspects of various programming elements during lectures, but it is up to you to combine the lecture learning components along with the textbook reading to create a specific solution

> any images/graphics that are needed will be included in the assignment folder or I will provide in Angel

(see next page)

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1. (50 Points) Create a program (or revise the prior program) that has the same requirements as the prior Homework which calculated a players salary: Decision Structure Problems A / Tiered Baseball Players Salary / **TieredPlayerSalaryViaIF**, but modify that program's code using these guidelines:

Leave the user interface as is, but revise the salary calculation coding section to:

a) **a set of code to determine the Tier number / letter using an *if…else if …* structure** (come up with your own Tier numbering or lettering system eg. 1,2,3,4 or "A", "B", "C", "D", etc.) – the tier number is determined as the requirements stated before, based on the number of hits. Keep in mind you may already have the *if.. else if..* structure you need from the earlier homework assignment, which may only need an adjustment to just set a variable to a Tier value (this *if…* part of the code no longer needs to set the $ salary per hit)

b) **then follow the section of code from a) above, with a set of code that will use the Tier number/ letter from part a) above to set the corresponding base $ per hit for a player**. For this step, you are **required to use a *switch { case… }*** decision structure instead of an *if ()* structure.

You may copy your solution folder for the previous similar Homework assignment as a starting point and then rename the copied folder, then make the modifications described above. If you do copy your prior solution, be sure to correct any items that I mentioned when I graded your prior assignment, and rename the project and the solution using Visual Studio rename options as described earlier in the course. If you did not complete the prior assignment, you will have to create this assignment. Be sure to refer to the general programming guidelines listed above. Name your project:
TieredPlayerSalaryViaSwitch - Your Name

2. (50 Points) Create a program to calculate the shipping cost for a user-specified package weight in pounds being delivered to a user-specified shipping 'zone.' INPUT: Create text boxes to accept the input of a package's weight and another text box to accept the input of a shipping zone code (assume shipping zone codes of A, B, C, D) with zone rates as described below. VALIDATION: Validate that the package weight entered is numeric. Validate that some shipping zone code was entered. If the user entered a shipping zone other than the valid codes mentioned below, then display an error message indicating this to the user and do not calculate the shipping costs. Use a switch { case … } statement to determine the zone cost component of the shipping cost. Be sure to refer to the general programming guidelines listed above. Name your project:
ShippingCalculator - Your Name

The shipping cost is equal to the 'weight cost' plus the 'zone cost' and is calculated as follows:

$1.25 per pound 'weight cost' PLUS:

- $4.75 'zone cost' if shipped to zone A
- $6.15 'zone cost' if shipped to zone B
- $7.95 'zone cost' if shipped to zone C
- $8.45 'zone cost' if shipped to zone D

OUTPUT: Display the weight cost, the zone cost, and the total shipping cost in different label fields. When the calculate button is clicked, clear the prior calculations before displaying the newly processed calculations.

3. (20 Points Optional Extra Credit) Read this assignment at least 5 days ahead of when it is due. If today's date is 5 or more days before this assignment's due date, login to Angel and send me an Angel email titled 'Homework – Decision Structures B - I read it!' saying that you read through this assignment at least 5 days in advance of it being due. If *for example*, the assignment is due on a Friday 1/15 and today is the Sunday 1/10 prior then that is considered 5 days prior to the due date. Monday 1/11 or after does not qualify since it is only 4 days prior to the due date.

Take all of your completed project folders above and copy them into a folder named:

DecisionStructureB - Your Name

Zip up this folder and submit the zip file in this dropbox by the due date and time.