**PROG1781 – Programming Fundamentals: Assignment 2**

**[Maximum points: 25]**

1. ~~Create a C# Console Application project to compute~~ registration fees for an online book subscription company.

In this part of the assignment, you are required to create a C# Console Application project.

Project name should be A2<LastName><FirstName>P1. For example a applicant with last name Brown and First name Jimmy would name the project A2BrownSmithP1.

**Step 1~~:~~** ~~Ask for age of person subscribing~~ and ~~the currency they wish to pay~~ in also ~~ask if they were referred by an existing client~~– include in the ~~message that they can only pay in either USD, CAD, or BITCOIN.~~ You **must use an If-Else-Elseif statement to get full marks.**

Logic: (All taxes HST at 13% are after the final fee is calculated unless otherwise specified)

* If the applicant’s age is ~~19 or below, they must pay $37 - and no tax.~~
* If the applicant is aged 20 to 29, they must pay $50.00
* If the applicant is aged 30 to 64, they must pay $53.50
* If the applicant is aged 65 or older they are free.
* If the applicant was referred by an existing client they get $50.00 deducted from the final price (if the price after deduction is less than 0 then there is no charge).

**Step 2:** ~~Ask for the month the applicant wishes to start their subscription. You must use a switch~~ statement to get full marks.

Logic:

* For any month between ~~January and April, subtract $2~~ from the final fee including tax.
* If ~~the month is May, add $25~~ to final fee then + 13% HST
* For all other months (i.e. June to December), no adjustment

**Step 3:** (((s1 - 50) + s2) \* 1.13 \* 1.09) – 2

~~Add an additional 9% tax to the final amount (step 1 + Step 2), then HST~~

* ~~Calculate the total~~ registration fee by adding the values obtained in Step 1 and Step 2.
* ~~Show the total fee~~ on the C# Console application. The display will look something contain:

The Applicant's age (as entered)

Registration Month (as entered)

Were they referred: (as entered)

Reg. fee before adjustment (as calculated by the application – step 1)

Total adjustment (if applicable, as calculated by the application – step 2)

Total tax calculated

Final Total (Including all taxes)as calculated by the application

1. ~~In this part of the assignment create a C# Console Application project using~~ **~~at least four methods~~** ~~to perform the following four calculations:~~

* Area of a square = Length2
* Area of a triangle= (base x height) /2
* Volume of a cube = length × width × height
* Volume of a sphere = 4/3 × **pi** × radius3

**\***pi can be estimated as 3.14159

~~Project name should be A2<FirstName><LastName>P2.~~

On the console, ~~show a menu that shows four options. (1. Square, 2. Triangle, 3.Cube 4. Sphere)~~

~~The user should be able to select one option.~~

On the console, ~~ask for the appropriate parameter values~~ to perform the calculations as stated above:

Areas of a square only ~~needs the Length~~

Area of a triangle needs ~~the length of the base and the height.~~

Volume of a cube ~~requires a length, a width and a height~~

Volume of a sphere needs ~~only the radius~~

The values should allow for numbers ~~with decimal places for all the shapes.~~

**As a reminder of above: using the values as parameters, create four methods to do the four calculations, make sure ~~the overloaded Method has an action verb..~~**

**~~Note as outlined in the lesson ALL four methods should have the~~ same name (Method Overloading). You should follow the appropriate naming conventions.**

**The format for submitting the assignment is as follows:**

1. **eConestoga Submission**: A single compressed (.zip format) archive file containing the entire project folder for each of the programs (Part 1 & Part 2) submitted to eConestoga.
2. **Both** exe files.