**Software Development Practices to be observed**

The following practices are to be observed and used throughout coding development for your semester 2 projects using Visual Studio C# .NET Framework. Such practices are essential for file tracking, management and archival.

1. **General Coding Conventions and Requirements**

1.1 All constant or static class property names shall be in upper-case   
 (for example: const int MAX = 10; static int MAX\_LIMIT = 100;).

* 1. All variable names shall use the standard ‘camel’ notation where the first letter of the name is lower case and all starting letters of subsequent words are upper-case – no spaces  
     (for example: int studentReferenceNumber = 0;).   
       
     If private data is used in a class and get/set methods are needed, then a public property must be used – the naming of the public property is to the same as the private data but with the first letter in upper case. For example:   
       
     private int score;  
       
     public int Score  
     {  
      get { return score; }  
      set { score = value; }  
     }
  2. All method names shall use the standard ‘pascal’ notation where all beginning letters of each word in the method name shall be upper-case – no spaces.  
     For example: public bool IsValid(string name) {};.
  3. All class names shall use the standard ‘pascal’ notation where all beginning letters of each word in the method name shall be upper-case – no spaces.  
     For example: public class Customer {}
  4. All source code files shall contain:  
     [i] A **commented file header** containing the name of the file, purpose, author’s name, version control number, date, tests and notes if any  
     For example:  
     /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  
     // Filename: Customer.cs  
     // Purpose: To provide template for customer instances  
     // and store name, address, phone, balance data  
     // Author: Hans Telford  
     // Version: 1.0  
     // Date: 03-Mar-2020  
     // Tests: Unit test 1 and 2 completed 08-May-2020  
     // Notes:  
     /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  
       
     [ii] A **commented method header** for each method  
     For example:  
     /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  
     // Method: public bool IsValid (String name)  
     // Purpose: validates a name suitable for the application  
     // returns true if name meets requirements  
     // returns false if name does not meet requirements  
     // Inputs: String name  
     // Outputs: bool  
     /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  
       
     [iii] **Comments**  
     Include comments to explain processes  
     For example:  
     // loop through the array to find the desired numeric value  
       
     [iv] Any relevant code being used as tests and checks during development.  
     This can be commented out or left uncommented.  
     For example:  
     Console.WriteLine ("name is: " + name);  
       
     [v] Appropriate tab **indentations and spacing** are to be used throughout to aid readability and file management.
  5. Appropriate try{} and catch{} blocks are to be used for the coding of database connections, file i/o operations, error logging, or attempting any numeric conversions from string values.
  6. User inputs should be validated to ensure validity and accuracy.
  7. All C# code for the project is to contain no syntax errors. It is desirable to use logging techniques when possible: for example: when logic or run-time errors are identified, these can be logged in a separate, plaintext file named 'error.log'.

**2. Occupational Health and Safety**

2.1 Please ensure that breaks are taken from using a computer every 2 hours for at least 15 minutes.

2.2 Avoid eating and drinking at a computer workstation

2.3 Ensure that you are seated correctly at the computer workstation  
  
For more information, refer Workplace Health and Safety information for Office Workstations:  
<https://www.worksafe.qld.gov.au/injury-prevention-safety/hazardous-manual-tasks/office-workstations>

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