**CS 3260**

**C# .NET Software Development**

**Lab #08**

**Version 1.1**



***Objectives:***

Your Homework to this point consists of a C# GUI application that is “Object-Oriented Employee Database Program.” Your company **World-Wide Wombats** has four employee classifications; 1) ***Salary*** employees; 2) **sealed** ***Hourly*** employees; 3) **sealed** **Sales** employees; 4) **sealed** **Contract** employees... Use the **abstract** **Employee** class as the base class and a BusinessRules and FileIO classes.

Add the following member properties & fields to your classes.

***Employee Type*** ***Compensation*** ***Overtime*** ***Benefits*** ***Commission*** ***Educational Benefits***

Salary Monthly Salary No Yes No Yes

Hourly Hourly Rate Yes No No Yes

Sales Monthly Salary No Yes Yes Yes

Contract Monthly Pay No No No No

Your BusinessRules class which should now contain a SortedDictionary<uint,Employee> containing unique keys and values that are references to Employee objects with associated indexers that provide for adding and retrieving keys or Employee object references to/from this collection. You also have a File I/O class that will serialize and deserialize the SortedDictionary<uint,Employee> to/from a disk file. You need to make sure you have a file of test data to be used to test your application. You should also have the ability to find an employee by their employee ID or last name. You MUST also validate ALL user fields in this lab and ALL future labs using Regular Expressions. REMEMBER user input validation is NOT the responsibility of the GUI!

Your client World Wide Wombats has decided that they want to provide educational benefits to all employees as follows:

***Employee Type*** ***Educational Benefits***

Salary 6 credit hours / semester for grade >= B+

Hourly 1 credit hour / semester for grade >= B

Sales 3 credit hours / semester for grade >= C+

Contract No educational benefits

The employees must attend Utah Valley University and must receive prior company approval before registering for any classes. More credit hours may be taken than those listed above; nonetheless, the company will not pay for more than the listed credit hours per semester. To keep track of the employees education and the classes they have taken or are now taking, add to the Employee class a SortedDictionary<string, Course>, where the course ID is the key and the value is a reference to a Course class. Make sure that you provide a tab page to provide input for the educational information. You should insure that your File I/O class will still serialize all the data in the Business Rules class. Make sure you have added the IFileAccess interface to your FileIO class.

***Course Class - Example***

Utah Valley University Course ID “CS3260”

UVU Course Description “C# .Net Software Development”

Course Grade A,A-,B+,B,B-,C+,C,C-,D+,D,D-,E

Approved Date 10/12/2008

Course Credits 1,2,3,4,5

Submit with your UML diagram(s) and C# program code for your classes and business logic as well as the Form class with GUI components classes.

**Grading Guidelines:**

|  |  |
| --- | --- |
| **Description** | **Points possible** |
| Assignment meets Grading Guidelines:  o Source code files contain a declaration that you did not copy any code, except that provided.  o Assignment has been properly submitted to Canvas  o Code meets Style Guidelines.  o Code contains the required Project and method Prolog’s. |  |
| o Lab meets all of the specifications for this lab. |  |
| o Lab is precise, elegant, efficient and works entirely error free. |  |
| Total | 10 |

Zip your entire Project folder and submit the properly named zip file to [Canvas](mailto:3260dennis@gmail.com).