# CST8333 Programming Language Research Project

## Assignment 01 – Project Proof of Concept - See Brightspace for due date

- Refer to the Course Section Information (CSI) document posted in Blackboard under Course Information for additional requirements common to all assignments as well as details on the required use of the data set specified for the course.
- Refer to the documents in the dataset area in Brightspace for the list of dataset columns to use, note that all listed columns need to be used, and need to be present within your source code to verify you are using the dataset provided.
- The first record in the data set may contain the column names, if so you may skip over this record when reading in and parsing the data set data.
- You may use your previous work in this course as a reference / starting-point but I expect modifications, i.e. passing in older work again with none to very small changes will not earn marks.

## Tasks

- Create a project, in your language of study that meets the following requirements:
    - Create a record object (also known as entity object, data-transfer object) that uses the column names from the dataset as part of the source code, e.g. variable names, accessors/mutators names, or constants.
    - Use File-IO on startup to open and read the dataset, initializing a few record objects with data parsed from the first few records in the csv file. The record objects should be stored in a simple data structure (array or a list), use exception handling in case the file is missing or not available.
    - Loop over the data structure, and output the record data on screen.
    - Displays your full name on screen so it remains visible at all times.
- Take a screen shot of your program performing each task above, ensuring your full name is within each screen shot.
- Comment your source code file using documentation comments (docstrings in Python, XML-document in C# or VB.Net, JSDoc for server-side JavaScript etc.)
- Your program should use the following programming concepts: variables, methods, a loop structure, File-IO reading from the dataset, exception handling, use of an API library, an array (or similar data structure).

## Your single MS Word document should have this general format

- Cover page with your full name within it.
- Heading with name "Evidence of Learning"
    - Variables, methods, a loop structure, File-IO reading from the dataset, exception handling, use of an API library, an array (or similar data structure).
    - Either:
        - Use small code examples for each topic with brief descriptive text, or
        - Indicate what line numbers in a larger code sample illustrate each concept within brief descriptive text (line numbers must be present in the code examples as well to match).
        - **You must indicate clearly to your professor that you can identify what parts of your code illustrate and match to each programming concept.**
- Heading with name "Program Demonstration via Screen Shots"
    - Include screen shots of your running program; I should see records from the data set displayed on screen. As well as your full name.
- Heading with name "Source Code Commenting Example"

- o Copy and paste all of the source code, including programmer comments, from one source code file from your project to demonstrate you can write **documentation-comments**. Use a font size of 10 point, with a monospaced font of your choosing.
  - o Note: Some frameworks generate many code files, which you never edit yourself. Only include a source code file you created or edited directly.
- Do not copy and paste code from the web into your demonstration program, it must be your own work. In other words, even properly cited and referenced code copied from a website will not earn marks, as you must provide your own work. Your professor while grading your submission will make this determination.

## Submission Requirements:
- Upload your MS Word document and original source code files by the due date
  - o One MS Word document
  - o One zip file containing your original source code file(s)

  \*\*Submitting any other format other than .doc or docx for your MS-Word document will result in zero for this assignment. Libra-Office users save-as… MS Word.

  Do not bundle your MS Word document inside the source code zip-archive keep them separate instead.
- Ensure your full name is included in all materials as asked.

## Grading (Total 12 Points)
**There is no criteria for a cover page with your full name in it; a mark deduction of 3 points will be applied if you do not have a cover page in your MS Word document.**

| Criteria | Poor/Missing (0) | Below Expectations (1) | Meets Expectations (2) | Exceeds Expectations (3) |
|---|---|---|---|---|
| Evidence of Learning | Poor/Missing or program does not use data set column names as specified within the source code. | Many learning topics are missing, or the presentation is vague i.e. student does not indicate clearly at all what parts of their code match each learning topic. | Almost all of the learning topics are present in code samples and clearly indicated with brief explanatory write up. | Student documents that all learning topics are in use by presenting either small focused examples with brief explanatory write up or a large code sample with visible line numbers used to focus the discussion of program topics. |
| Screen Shots, Running Program | Poor/Missing E.g. missing full name from all images, image file not within the MS Word document. Screen shot does not demonstrate use of the dataset. | Screen shots are within MS Word document. No explanation of the image. Has partial name or nickname but full name missing from some screen shots. Some project functionality missing or program crashes. | Screen shots are within MS Word document. Student provides brief generalized description of each image. Has full name in nearly all screen shots. Most of the requested project functionality is working. | Screen shots are within MS Word document. Student provides brief yet detailed description of each image. Has full name in nearly all screen shots. All project functionality is documented and working. |
| Source Code, programmer comments. | Poor/Missing E.g. missing full name as programmer comment at the top of the file as author of the file. | Student uses minimal comments in source code, e.g. the student does not comment (m)any class members. | Student comments some class and class members, however does not use documentation comments. | Student uses documentation comments in an accepted coding style specific to their language of study. If the language does not support documentation comments student provides evidence of this from reputable source, yet still comments code following best practices. |
| Source Code and Source Code files | Poor / Missing or MS Word document is bundled inside the code zip archive. | Not used for this criteria | Not used for this criteria | Student uploads both MS Word document, and source-code zip file keeping them separate, i.e. MS Word document is not inside zip file. |

## Additional Notes

**Video Game Software projects are not acceptable in this course.**

Your source code within the MS Word document, should match the code in your source code files, this includes the programmer comments. If there are large or many differences, you will lose marks.

**If you do not submit your full source code in a zip archive to so your code figures can be verified this entire Assignment will be awarded zero points. It is your responsibility to submit the correct files.**

*Name your project something similar to CST8333ProjectByYourName, where 'Your Name' is your ACSIS name. Where you develop the project through assignments 1 through 4, naming your project "Assignment 1" (etc.) will not look professional.*