**Coding Standards**

C# Coding Standards

* Use 4 spaces per indentation
  + Ex:

if(true)

{

⎵⎵⎵⎵Console.WriteLine(“Hello world!”);

}

* Class structure order
  + Fields
    - Public
    - Private
  + Constructors
  + Properties
  + Methods
* Variable naming
  + Regular variables
    - Public
      * PascalCase
    - Private
      * \_camelCase
  + Static variables
    - Public
      * PascalCase
    - Private
      * s\_camelCase
  + Constants (Private and Public)
    - PascalCase
* Method calls should have spaces after every comma, and no leading or trailing spaces, e.g.:
  + Result result = myFunction(a, b, c)
* Lines should be no more than 120 characters in length.
* Opening and closing braces must always occur on a new line, by themselves.
  + Ex:

if(true)

{

return 0;

}

* Arithmetic operations must have a space on either side of them,
  + Ex:  a = a - b;
* When making sql calls within C#, always parameterize the values being passed into the sql statement. Do not concatenate them with “+” symbols to the query string.
  + Ex:

var sqlStmt = "INSERT INTO cars(name, price) VALUES(@name, @price)";

using var cmd = new MySqlCommand(sqlStmt, con);

cmd.Parameters.AddWithValue("@name", "BMW");

**Documentation**

* Documentation comments are full sentences starting with a capital letter and ending with proper punctuation. Comments should have spaces between words.
  + Ex: // This is a documentation comment with proper grammar and punctuation.
* Every method should be documented with its parameters, function, and return value.
  + Void methods do not have any return value (not even a blank one) within the documentation.
  + Ex: // This method accepts an int and returns its square   root as a double.

SQL Coding Standards

* Whenever using a reserved keyword, make it uppercase, e.g.:
  + SELECT, FROM, WHERE, LIKE, AS, GROUP BY, UNION (etc.)
* Names must be unique and must not be reserved keywords.
* Where a space would normally occur in a name, use an underscore.
  + Ex: First\_name
* Never use more than one underscore in a row.
  + Ex: First\_\_name --DON’T DO THIS
* Columns use the name in singular form.
  + Ex: Last\_name
* Tables should not have a column with the same name as the table.
* For commenting, use “-- ” prior to the comment, followed by a newline. Otherwise, use “/\* *comment*  \*/” for comments that must span multiple lines, followed by a newline.
  + Ex: SELECT \* FROM Foosball --I am a comment
* Keep names to a length of 30 characters or less.
* No names can end with an underscore.
  + Ex: Ink\_type\_ --DON’T DO THIS
* The first character of any name must be a capital letter.
  + Ex: Animal
* In a comma separated list of names, a space must occur after the comma, and never before.
  + Ex: SELECT Name, Player, ID FROM Foosball
* Whenever possible, avoid REAL or FLOAT data types to reduce floating point rounding errors.
  + Ex: FLOAT Num\_Pizzas --DON’T DO THIS