**Coding Standards**

C# Coding Standards

1. Use 4 spaces per indentation
   * Ex:

if(true)

{

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

}

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

if(true)

{

return 0;

}

1. Arithmetic operations must have a space on either side of them,
   * Ex:  a = a - b;
2. 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**

1. 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.
2. 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

1. Whenever using a reserved keyword, make it uppercase, e.g.:
   * SELECT, FROM, WHERE, LIKE, AS, GROUP BY, UNION (etc.)
2. Names must be unique and must not be reserved keywords.
3. Where a space would normally occur in a name, use an underscore.
   * Ex: First\_name
4. Never use more than one underscore in a row.
   * Ex: First\_\_name --DON’T DO THIS
5. Columns use the name in singular form.
   * Ex: Last\_name
6. Tables should not have a column with the same name as the table.
7. 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
8. Keep names to a length of 30 characters or less.
9. No names can end with an underscore.
   * Ex: Ink\_type\_ --DON’T DO THIS
10. The first character of any name must be a capital letter.
    * Ex: Animal
11. In a comma separated list of names, a space must occur after the comma, and never before.
    * Ex: SELECT Name, Player, ID FROM Foosball
12. Whenever possible, avoid REAL or FLOAT data types to reduce floating point rounding errors.
    * Ex: FLOAT Num\_Pizzas --DON’T DO THIS