**BCS 450 C# Lab – Objects**

***Overview***

Create a project in C# using Visual Studio. You will need to write a Message class that uses various different aspects of class creation available in C#.

***Part 1 – Create the project***

Create a C# console application in Visual Studio. Name the project Lab-Objects.

***Part 2 – Create a class (read all specs in this section before you code)***

Message Class. It should contain the following private member variables

* title:string (auto-implemented property, see below)
* body:string (auto-implemented property, see below)
* priority: enum (normal property), (you will need to define the enum, see below)
* destinationaddress:IPAddress (normal property)
* version:int (normal property but with only a get).

Here are additional specifications:

* **Partial class.** Develop the class using partial classes. Use two source files for this. Make sure some functionality is in each source file. You can first create a normal class. To create the extra source file choose Add|New Item|Code File from the context menu of the project in Visual Studio. Again, some variable should be defined in one Message source file and some should be defined in the other Message source file. Make sure the second source file uses the same namespace as the first.
* **Define an enumeration.** Define an enumeration for priority. It should have the values HIGH, NORMAL, and LOW.
* **Normal Properties.** Create normal C# properties for priority and destination address. Create a property with only a get for version.
* **Auto-implemented property.** Create an auto-implemented properties for title and body.
* **Readonly member.** Make the version member variable read only. This variable should be initialized to 1.
* **Create two constructors and call one from the other.** Create a constructor that takes parameters for all member variables except version. Create a default constructor that calls the parameter constructor. When the default constructor calls the parameter constructor it should pass in default values that you decide on for each field. The IP Address should default to the local loopback IP 127.0.0.1.

**Hint:** The following function call will return an IPAddress instance set to the loopback address:

System.Net.IPAddress.Parse("127.0.0.1")

* **Override ToString.** You should return a string representation that includes the title, priority, and destinationaddress.
* **Override Equals.** This should perform a value compare. You should compare the titles. This needs to be a value compare on the strings.
* **Create an expression-bodied method.** Create an expression-bodied method called TitleAndBody. This method should just return the title and body concatenated together.
* **Static.** Create a static data member for the count of the number of message. Use a static constructor to initialize it.

***Part 3 – Use Message Class***

Inside of main create two instances of Message. Make sure to call all the methods on the Message class.