**Senior QA Automation Engineer – Code Challenge**

This Code Challenge is designed to test:

1. General .Net and c# coding skills.
2. Understanding of coding to Windows OS.
3. A good understanding of data handling.
4. A basic understanding of objects and how to handle objects in .Net.
5. The “3As” – Arrange, Act, Assert.
6. The test should be self-contained and not require any manual intervention.

Bonus to this would be evidence of:

1. Making code configurable i.e., storing file-paths in a config file and reading into code.
2. Evidence of Clean Code, our coding is to Developer standards.
3. Understanding of JSON parsers i.e., using Newtonsoft or System.Text.Json
4. Use of Extension Methods over Helpers
5. Data Validation – what to validate, as much as how.
6. Deciding which tool to use for comparison tests.
7. Demonstration of correct use of any Software Development Principles and Patterns.
8. Use of LINQ (Hint: using Sum to get total cost per customer)
9. Avoid over-engineering.

The challenge:

Please use the “TestOrders.json” file to create a small application which will:

1. Read the file and parse to an object.
2. Iterate through the parsed object to find any errors and report these in another file.
3. Convert the valid orders to an object with the correct data types and write to a JSON file.
4. Read the valid orders file and parse to objects.
5. Perform calculations to give us a total price per customer.
6. Perform an assertion per customer for Total Price against pre-defined expected results.

Hint – As you will be reading from TestOrders.json where all properties are strings, use 2 similar classes where all properties are strings in one for the initial deserialising, and a second with the correct data types for writing valid order items.

Your expected results could look like:

Customer Number Number of Items Total Cost

1 24 4171.00

2 8 61.00

The errors file could look like:

{

"OrderNumber": 1,

"ErrorMessages": [

"N is not a valid integer value",

"D is not a valid integer value",

"42-02-2022 is not a valid Date value",

"C is not a valid integer value",

"V is not a valid double value"

]

}