**WVR UK Assessment – Web Developer**

WVR UK has defined an interface called ICharacterReader that returns a character from a stream. An EndOfStreamException is thrown if there are no more characters to read. ICharacterReader provides a Dispose method that must be called after use.

WVR UK has provided an implementation of ICharacterReader called CharacterReader that returns characters from a string; the RandomCharacterReader returns characters with random delays. You’ll find these in the zip file you have been given.

Please answer both questions as well and thoroughly as you can and write your code in C#. Your answers must compile and run, don’t worry if your solution doesn’t do everything we ask as it will be judged on the assumptions that you have made and the quality of your code.

As we’re fans of well-presented self-commenting code, please comment your code minimally only listing assumptions you have made and any non-obvious design and implementation decisions that you make.

**To save yourself having to refactor your code we recommend that you read both questions before starting to write any code!**

1. Write an application that takes an ICharacterReader interface and outputs a list of word frequencies ordered by word count and then alphabetically. You should use the CharacterReader class as a test input, and send the output to the console. For example if the stream returns “how much wood would a woodchuck chuck, if a woodchuck could chuck wood.” then the output would be:

a – 2

chuck – 2

wood – 2

woodchuck – 2

could – 1

how – 1

if – 1

much – 1

would – 1

1. Write an application that takes an array of ICharacterReader interfaces, accesses them in parallel, and produces a console output of combined word counts, split by word as in the first step, every 10 seconds. Test this using the RandomCharacterReader class.

This assessment should take around two hours to complete, but don’t worry if it takes you a bit longer. Please include all your source code and a rough indication of how long you took with your submission.

Good luck!