*Please read carefully. The primary issue we receive with submissions is candidates missing requirements.*

**Time available**: 2 hrs minimum, 4 hours maximum (recommended).

**The Problem:**

Fuzion Inc. Manages a flood detection programme. They have devices in the field that take rainfall readings which are sent to main office via ftp as a .csv file.

They would like a simple console UI that reads in the rainfall readings from a folder and shows the average rainfall over the last 4 hours for each device, whether it is green, amber or red, and whether the average rainfall trend is increasing or decreasing. The thresholds being:

Green: average rainfall for last 4 hrs < 10mm

Amber: average rainfall for last 4 hrs < 15mm

Red: average rainfall for last 4 hrs >= 15mm or any reading in the last 4 hrs > 30mm

**Data:**

You are provided with:

* The list of devices (csv)
* The last 2 sets of data files received (csv)

For the purpose of development & testing assume that the last timestamp across all data files is the current time, so if the last time in all data files is 3pm, assume the current time is 3pm

**Questions**

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| **When in office** | The business owner requesting this application is very busy but will be able to drop by in 15 minutes time and will have 5 minutes available to answer any questions you might have. |
| **When at home** | The business owner requesting this application is very busy but so has asked you to include in a readme.txt file any assumptions you have made in developing the application. |

**Solution requirements**

The solution should be written in C# although if you only have java / javascript skills we’ll take either of these. The solution should use **no external libraries**. There is one exception - you may use your choice of CSV reader. There are a few available. Our suggestion is <https://joshclose.github.io/CsvHelper/>.

It should have a console front end. It is your choice how simple or complex you make it including if and how you choose to store data.

If you have time you are welcome to provide additional features however we are looking for a solution that correctly solves the problem above and shows evidence of good coding practices e.g. unit testing, SOLID[[1]](#footnote-2), clean code and design over complexity of what the application can do.

1. If you don’t know what SOLID code is do not worry about taking the time to research it. Just write good object oriented code [↑](#footnote-ref-2)