

PL190μ Introduction to the Go Programming Language

Coding 2: Data manipulation

This assessment evaluates the following competencies:

- *GP001 – Correctly use the syntax of Go programming* (+1)
- *GP101 – Write, compile and execute a single source file Go program with the command line* (+1)
- *GP002 – Use basic built-in data structure: array, slice and map* (+1)
- *GP301 – Handle rigorously the errors when calling function* (+1)

You may also be assessed on the following competencies:

- *GP401 – Understand basic Go compiler errors and warnings and fix the code accordingly* (+1)

In this coding assessment, you have to complete and improve an existing Go program that reads numbers from a text file and performs several analysis on these numbers¹. First, you have to improve the existing program by:

- changing the return type of the `readData` function so that it returns a slice instead of an array of size `MAXSIZE`, and adapting the other parts of the program;
- adapting the `readData` function so that it returns `nil` if any error occurred while reading the file, that is, an invalid file path and any line not containing a number;
- computes the factorial of a given natural number;
- ...

Then, you have to add a new analyse in the result computed by the `analyse` function. To succeed the assessment, you have to add this new analyse, in live, following the specifications given by the teacher, compile the program and run it with the command line. For example, you could be asked to compute:

- the greatest value in the file;
- the number of positive values in the file;
- the sum of all the values in the file;
- ...

¹The code can be found here: <https://github.com/ukonline/uCourse/blob/master/PL190%C2%B5/code/analyser.go>