C++ Code Test v1.1

Requirements:

- Create a shared object library in C++ that exposes the following function (as a C extern):
  int analyse(const char * input, const char * output)

- The function must:
  - Open the file at the location specified by *input* for reading
    - each line will be a standalone whole number
  - Open the file file at the location specified by *output* for writing
    - Write the count of the numbers read to a line
    - Write the sum of the numbers read to a line
    - Write the average of the numbers read to a line
  - Return 0 if the operation was successful, or a negative number otherwise

- Apart from the analyse function, the code should be Object Oriented applying good OO practices (consider that this code needs to be extended and maintained in the future)

- The code should be well documented using standard documentation techniques for modern C++ development

- Provide instructions for building on macOS OR provide a standard build file (e.g. Makefile)

We are more interested in an effective, maintainable, well written solution than one which is "efficient" and has a small number of lines of code. Effectiveness over efficiency - we can optimise later.

Please provide submissions in a zip file, tar.gz file or as a public git repository.