The task:

1. Implement a small library that allows you to write and read fixed-width files with the structure described in the table below.

2. Write an application with a CLI interface that provides the following possibilities

- get the value of any field

- change field values

- add transactions

Nice to have:

- a possible to close some fields for changes

- validation of the file structure

- error handling mechanism

- appropriate and correctly implemented logging

- tests

Additional general recommendations

- It is important how you organize the project

- The code must be first - readable, second - reliable, and third - fast. In that exact order of importance

- Pay attention to the type of data used to present financial information

The file has a fixed width structure and consists of records of different types. Length of each line is 120 symbols. Each record is delimited by a line ending symbol, which should be OS-agnostic. Schematized structure of the file (all lines are placed in the strict order):

1 Header (mandatory)

2 Transaction (can be repeated from 1 to 20000 times)

3 Footer (mandatory)

Description of fields:

| Position (from-to) | Data type | Field name | Extra info |
| --- | --- | --- | --- |
| Header | | | |
| 1-2 | string | Field ID | fixed value "01" |
| 3-30 | string | Name |  |
| 31-60 | string | Surname |  |
| 61-90 | string | Patronymic |  |
| 91-120 | string | Address |  |
| Transaction (can be repeated from 1 to 20000 times) | | | |
| 1-2 | string | Field ID | fixed value "02" |
| 3-8 | string | Counter | format 000001 - 020000 (should be incremented automatically) |
| 9 - 20 | number | Amount | format 000000002000 (two last digits are decimal part, contains leading zeros to reach max length) |
| 21-23 | string | Currency | fixed list of possible values |
| 24-120 | string | Reserved | Spaces |
| Footer | | | |
| 1-2 | string | Field ID | fixed value 03 |
| 3-8 | number | Total Counter - | format 000001 - 020000 (overall number of transactions in the file) |
| 9 - 20 | number | Control sum | format 000000002000, total amount of all transactions in the file |
| 21-120 | string | Reserved | Spaces |