ERP customer billing solution

Your customer is an ERP ( like Cez, EVN, etc. ). Your customer has given you the task to create a system which calculates the monthly power usage of it’s customers.

Your input data looks like this :

123,01.01.2019,0,0,0,0,E,75,meter tamper alarm

132,02.01.2019,0,0,0,0,E,75,meter tamper alarm

69,03.01.2019,75,248,273,851,A,,

56,04.01.2019,0,0,0,0,E,75,meter tamper alarm

123,05.01.2019,72,570,469,1214,A,,

150,06.01.2019,77,590,703,1405,E,75,meter tamper alarm

201,07.01.2019,58,276,349,976,A,,

213,08.01.2019,90,206,386,824,E,75,meter tamper alarm

300,09.01.2019,56,336,203,902,E,76,

201,10.01.2019,81,201,390,940,A,,

Here is what each field stands for :

|  |  |  |
| --- | --- | --- |
| **Field number** | **Name** | **Meaning** |
| 1 | Customer ID | 300 is customer with ID 300 |
| 2 | date | Date of the consumption (format dd.mm.yyyy) |
| 3 | Usage1 | Usage in period 00:00 - 05:59 |
| 4 | Usage2 | Usage in period 06:00 - 11:59 |
| 5 | Usage3 | Usage in period 12:00 - 17:59 |
| 6 | Usage4 | Usage in period 18:00 - 23:59 |
| 7 | Quality | A = actual reading (reported by smart meter itself).  E= estimated reading. Precise data was not available |
| 8 | Error code | 76 = communication failure.  75 = other error. See "error description" field |
| 9 | Error description | Free text error for errors of code=0 |

**Your input file will be txt, and we also expect the output files to be txt. Bonus points will be awarded if your output file is a pdf. We expect one file per one customer.**

Your task :

1. Record validation. Make sure all of the records are valid. For example Quality A and E are the only ones accepted, also usage should always be above 0. If you find any records that you consider invalid please dump them to the E\_records.txt file.
2. Create a program that calculates the monthly usage for a customer ( up to you to decide with which language you want this to happen ). Please assume the prices of electricity in Bulgaria at the moment of writing this (02.14.2020) :

Daytime : 0.14 BGN

Nighttime: 0.05 BGN

Consider that daytime is from 06:00 to 17:59 and nighttime is between 18:00 to 05:59

1. We expect that for each customer you will generate one monthly bill with the total usage, which has two parts, daytime and nighttime usage.

**All the A records need to go to the monthly bill of the customer. ( bonus points if monthly bill also is written in a table in a DB ( of your choice ).**

All the E records need to be dumped into another file, called something like E\_records.txt ( this file can be just one ).

1. You will also receive a file called lookup.txt . Part of your task is to go there, and using the Customer ID as a key, to take the customer name and have it in the monthly bill. Respectively for each customer we generate a different monthly bill.

If you would like to create the whole solution as one program ( script ) that is perfectly fine, but we shall award bonus points if you create separate programs ( scripts ) for each of the tasks.

1. We would expect you to present the task and answer questions about the structure of your code and your line of thought.

Good luck !