Flo Energy Tech Assessment

Problem Statement

- Write a piece of code which **reads the example date below** and generates **insert statements for the meter_readings table below**.
- Please ensure the implementation is prepared to **handle files of very large sizes**.
    - Use any (or no) CSV parser/ORM.
- For this assignment success would mean as close to **production grade implementation** which **does not include any form of infrastructure and deployment code.**
- Our estimate for this assignment is about **half a day of your time**.
- Some aspects of the problem statement are **intentionally kept open-ended** to allow space for bringing your own thought process & strengths to the table and seeing how you bind ambiguous aspects of a problem space.
- You're encouraged to use the **language/tools of your choice** that you think can help achieve the best outcome for this exercise.

Write up - In your assessment please also assist us in answering the following questions:

Q1. What is the rationale for the technologies you have decided to use?
Q2. What would you have done differently if you had more time?
Q3. What is the rationale for the design choices that you have made?

EXAMPLE DATA

- The format of the input file is **NEM12** (reference PDF).
- There is a **hierarchy to the lines**: for example,
    - multiple `300 records` belong to the `200 record` . Of interest for this specific task are the NMI (second value in the `200 record` – NEM1201009 in this example);
    - the interval length (ninth value in the 200 records – 30 in this example);
    - the interval date (second value in the 300 records – e.g. 20050301);

- and the interval values, which we call consumption (values 3-50 in the 300 records – e.g. 0.461).

300 record: A row in the sample input that starts with 300.
200 record: A row in the sample input that starts with 200

Sample.

Example Data:

```
100,NEM12,200506081149,UNITEDDP,NEMMCO
200,NEM1201009,E1E2,1,E1,N1,01009,kWh,30,20050610
300,20050301,0,0,0,0,0,0,0,0,0,0,0,0,0.461,0.810,0.568,1.234,1.353,1.507,1.344,1.773,0.848,
1.
271,0.895,1.327,1.013,1.793,0.988,0.985,0.876,0.555,0.760,0.938,0.566,0.512,0.970,0.760,0.7
31,0.615,0.886,0.531,0.774,0.712,0.598,0.670,0.587,0.657,0.345,0.231,A,,,20050310121004,2
0050310182204
300,20050302,0,0,0,0,0,0,0,0,0,0,0,0,0.235,0.567,0.890,1.123,1.345,1.567,1.543,1.234,0.987,
1.
123,0.876,1.345,1.145,1.173,1.265,0.987,0.678,0.998,0.768,0.954,0.876,0.845,0.932,0.786,0.9
99,0.879,0.777,0.578,0.709,0.772,0.625,0.653,0.543,0.599,0.432,0.432,A,,,20050310121004,2
0050310182204
300,20050303,0,0,0,0,0,0,0,0,0,0,0,0,0.261,0.310,0.678,0.934,1.211,1.134,1.423,1.370,0.988,
1.
207,0.890,1.320,1.130,1.913,1.180,0.950,0.746,0.635,0.956,0.887,0.560,0.700,0.788,0.668,0.5
43,0.738,0.802,0.490,0.598,0.809,0.520,0.670,0.570,0.600,0.289,0.321,A,,,20050310121004,2
0050310182204
300,20050304,0,0,0,0,0,0,0,0,0,0,0,0,0.335,0.667,0.790,1.023,1.145,1.777,1.563,1.344,1.087,
1.
453,0.996,1.125,1.435,1.263,1.085,1.487,1.278,0.768,0.878,0.754,0.476,1.045,1.132,0.896,0.8
79,0.679,0.887,0.784,0.954,0.712,0.599,0.593,0.674,0.799,0.232,0.612,A,,,20050310121004,2
0050310182204
500,O,S01009,20050310121004,
200,NEM1201010,E1E2,2,E2,,01009,kWh,30,20050610
300,20050301,0,0,0,0,0,0,0,0,0,0,0,0,0.154,0.460,0.770,1.003,1.059,1.750,1.423,1.200,0.980,
1.
111,0.800,1.403,1.145,1.173,1.065,1.187,0.900,0.998,0.768,1.432,0.899,1.211,0.873,0.786,1.5
04,0.719,0.817,0.780,0.709,0.700,0.565,0.655,0.543,0.786,0.430,0.432,A,,,20050310121004,
300,20050302,0,0,0,0,0,0,0,0,0,0,0,0,0.461,0.810,0.776,1.004,1.034,1.200,1.310,1.342,0.998,
1.
311,1.095,1.320,1.115,1.436,0.890,1.255,0.916,0.955,0.711,0.780,0.606,0.510,0.905,0.660,0.8
35,0.798,0.965,1.122,1.004,0.772,0.508,0.670,0.670,0.432,0.415,0.220,A,,,20050310121004,
300,20050303,0,0,0,0,0,0,0,0,0,0,0,0,0.335,0.667,0.790,1.023,1.145,1.777,1.563,1.344,1.087,
1.
453,0.996,1.125,1.435,1.263,1.085,1.487,1.278,0.768,0.878,0.754,0.476,1.045,1.132,0.896,0.8
79,0.679,0.887,0.784,0.954,0.712,0.599,0.593,0.674,0.799,0.232,0.610,A,,,20050310121004,
300,20050304,0,0,0,0,0,0,0,0,0,0,0,0,0.461,0.415,0.778,0.940,1.191,1.345,1.390,1.222,1.134,
1.
207,0.877,1.655,1.099,1.625,1.010,0.950,1.255,0.635,0.956,0.880,0.660,0.810,0.878,0.778,0.6
43,0.838,0.812,0.490,0.598,0.811,0.572,0.417,0.707,0.670,0.290,0.355,A,,,20050310121004,
500,O,S01009,20050310121004,
900
```

meter_readings TABLE

CREATE TABLE STATEMENT:

```
create table meter_readings (
id uuid default gen_random_uuid() not null,
"nmi" varchar(10) not null,
"timestamp" timestamp not null,
 "consumption" numeric not null,
constraint meter_readings_pk primary key (id),
constraint meter_readings_unique_consumption unique ("nmi", "timestamp")
);
```