

# Tech Interview Assignment

## Problem Statement

Write a piece of code which reads [this example file](#) and generates insert statements for the [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 as possible, which means idiomatic code structuring, readability, performance optimization, basic testing, and anything else that you deem feasible. 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.

```
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")  
);
```

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 Input:

```
100,NEM12,200506081149,UNITEDDP,NEMMCO  
200,NEM1201009,E1E2,1,E1,N1,01009,kWh,30,20050610
```

300,20050301,0,0,0,0,0,0,0,0,0,0,0,0,0.461,0.810,0.568,1.234,1.353,1.507,1.344,1.773,0.848,1.271,0.895,1.327,1.013,1.793,0.988,0.985,0.876,0.555,0.760,0.938,0.566,0.512,0.970,0.760,0.731,0.615,0.886,0.531,0.774,0.712,0.598,0.670,0.587,0.657,0.345,0.231,A,,,20050310121004,20050310182204

300,20050302,0,0,0,0,0,0,0,0,0,0,0,0.235,0.567,0.890,1.123,1.345,1.567,1.543,1.234,0.987,1.123,0.876,1.345,1.145,1.173,1.265,0.987,0.678,0.998,0.768,0.954,0.876,0.845,0.932,0.786,0.999,0.879,0.777,0.578,0.709,0.772,0.625,0.653,0.543,0.599,0.432,0.432,A,,,20050310121004,20050310182204

300,20050303,0,0,0,0,0,0,0,0,0,0,0,0.261,0.310,0.678,0.934,1.211,1.134,1.423,1.370,0.988,1.207,0.890,1.320,1.130,1.913,1.180,0.950,0.746,0.635,0.956,0.887,0.560,0.700,0.788,0.668,0.543,0.738,0.802,0.490,0.598,0.809,0.520,0.670,0.570,0.600,0.289,0.321,A,,,20050310121004,20050310182204

300,20050304,0,0,0,0,0,0,0,0,0,0,0,0.335,0.667,0.790,1.023,1.145,1.777,1.563,1.344,1.087,1.453,0.996,1.125,1.435,1.263,1.085,1.487,1.278,0.768,0.878,0.754,0.476,1.045,1.132,0.896,0.879,0.679,0.887,0.784,0.954,0.712,0.599,0.593,0.674,0.799,0.232,0.612,A,,,20050310121004,20050310182204

500,O,S01009,20050310121004,

200,NEM1201009,E1E2,2,E2,,01009,kWh,30,20050610

300,20050301,0,0,0,0,0,0,0,0,0,0,0,0.154,0.460,0.770,1.003,1.059,1.750,1.423,1.200,0.980,1.111,0.800,1.403,1.145,1.173,1.065,1.187,0.900,0.998,0.768,1.432,0.899,1.211,0.873,0.786,1.504,0.719,0.817,0.780,0.709,0.700,0.565,0.655,0.543,0.786,0.430,0.432,A,,,20050310121004,

300,20050302,0,0,0,0,0,0,0,0,0,0,0,0.461,0.810,0.776,1.004,1.034,1.200,1.310,1.342,0.998,1.311,1.095,1.320,1.115,1.436,0.890,1.255,0.916,0.955,0.711,0.780,0.606,0.510,0.905,0.660,0.835,0.798,0.965,1.122,1.004,0.772,0.508,0.670,0.670,0.432,0.415,0.220,A,,,20050310121004,

300,20050303,0,0,0,0,0,0,0,0,0,0,0,0.335,0.667,0.790,1.023,1.145,1.777,1.563,1.344,1.087,1.453,0.996,1.125,1.435,1.263,1.085,1.487,1.278,0.768,0.878,0.754,0.476,1.045,1.132,0.896,0.879,0.679,0.887,0.784,0.954,0.712,0.599,0.593,0.674,0.799,0.232,0.610,A,,,20050310121004,

300,20050304,0,0,0,0,0,0,0,0,0,0,0,0.461,0.415,0.778,0.940,1.191,1.345,1.390,1.222,1.134,1.207,0.877,1.655,1.099,1.625,1.010,0.950,1.255,0.635,0.956,0.880,0.660,0.810,0.878,0.778,0.643,0.838,0.812,0.490,0.598,0.811,0.572,0.417,0.707,0.670,0.290,0.355,A,,,20050310121004,

500,O,S01009,20050310121004,

900