

Technical test

Context

In the US, Lalilo is a freemium product with the student part (exerciser) being free and a part of the teacher application being accessible for premium teachers. We sell Lalilo to schools and districts. A district is a group of schools (from a single school to a hundred).

The Sales team is doing an amazing job but they want to focus their workload on schools and districts that are likely to buy Lalilo. They need you, to make data-driven decisions.

Instructions

As a Data-Analyst at Lalilo, one part of your job will be to empower the Sales team with data.

Here are some information they need:

- For a given district, we want to know for each class **the number of students and the total number of exercises done**
- For a given week, for each school, **the number of active teachers, the number of active students, and the number of teacher signups of the week**

Analysis

- Aggregate all the information above to build a leaderboard of schools that are most likely to buy Lalilo
- To your mind, what defines "a good district"?
- What could we do to improve this leaderboard?



Additional information

- We don't have the district information in the database, thus, we need to deduce it from the teacher email. Usually, teachers use the email from their district which means they have the same name after the @
- A trace is a log of an exercise done on Lalilo
- An active student is a student with a least one trace. An active teacher is a teacher with a least one active student

Expectations and technical concerns

Here is a SQL dump file of what our database looks like. You can use it to test your queries against. In the real-life, you would have a Postgres database at your disposal (you're allowed to use specific functions of this tool to achieve your goals). Our database contains millions of records, thus you should be careful of performance issues.

We expect a document with SQL queries you used for each question and answers to the analysis part.

You can spend ~1h on this test, if you don't have time to build the leaderboard, you can explain what you would do.

Feel free to ask any questions if you need it.

Good luck!