TECHNICAL CHALLENGE

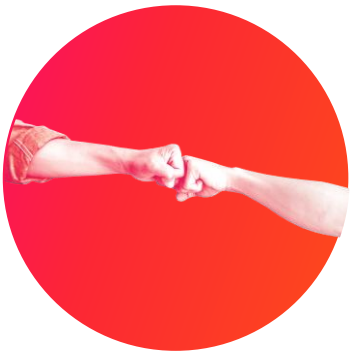
¡Hola!

Muchas gracias por la llamada inicial, agradecemos el tiempo que le has dado al proceso y el que le darás a la prueba técnica.

Nos gustaría invitarte a la siguiente etapa, la cual es resolver una prueba elaborada por nuestro equipo Tech ☺ (los detalles y las preguntas están en la siguiente página.

El objetivo de este challenge es evaluar tus skills técnicos, qué tan cómodo te sientes con las tecnologías que usamos y que nos demuestres tus mejores prácticas.

¡Es hora de sacar tus superpoderes!



Test

Data Analyst Sr

Highlights

- Completa el test en tiempo, tendrás 3 días para enviarlo de vuelta a partir de que recibas este documento, si se te complica háznoslo saber para tomarlo en cuenta (si terminas el test antes, qué mejor)

- Posteriormente el ingeniero de datos lo revisará y con base en el feedback agendaremos una entrevista con él.

- Si tienes alguna duda, escríbeme a mi mail o whatsapp ☺

Tasks

1) Design in any diagram editor (e.g., drawio) the following database schema which has the following rules. Note that you can use a RDMBS of your preference to solve this test

a. Customer profile data
    i. Name, surname, birthdate, address and phone number
b. Loan data
    i. A loan is defined by the following data: contract start date, contract end date, total amount of the loan, payment frequency, and payment amount
    ii. Note that a single customer can have more than one active loan (or no loans at all)
c. Payment data
    i. Captured when customers make (or miss) scheduled payments between the contract start date and end date
    ii. Each customer payment is defined by payment due date, amount due, amount paid and actual payment date

2) Write the SQL statements to build the tables defined in the database above and populate the tables with sample data of your preference

3) Use statements or scripts using any library of your choice (pandas, pyspark, etc) to display the following. Note that you can use SQL, Python, or a combination of the two (SQL queries inside of Python scripts)

a. Select all customers that have multiple active loans
b. Select all customers that have made two consecutive payments any of their active loans.
c. Select the total amount paid and the average number of payments made by customers that have only one active loan
d. Select the total amount paid grouped by zip code and age buckets

The goal of this test is to demonstrate your ability to think creatively about database design as well as your ability to execute some basic transformations. Good luck and happy coding!