Stark Bank - Data Challenge - Invoice

Welcome candidate!

This challenge is an opportunity for you to prove that you have what it takes to join our ranks. More than coding or mathematical skills, we aim to gather those who can learn new abilities on the fly to quickly and independently tackle any of the technical challenges that will certainly occur on our journey towards financial greatness.

This test will attempt to put you in situations you have not yet faced, forcing you to learn whatever is necessary to get the task done.

Once you are done, you can send an email with all relevant information to [developers@starkbank.com](mailto:developers@starkbank.com) and [anna.doliveira@starkbank.com](mailto:anna.doliveira@starkbank.com). If you desperately need help to clear any doubts you face, you can also talk to us on the same address, but use this with caution...

That's all for presentations. Now, let's move on to the challenge that awaits you:

The Challenge

Deadline

You have until midnight BRT, seven days from now to deliver your answer.

Task

A Pix Invoice is one of the main methods for an enterprise to charge customers. Similarly to a Boleto, an Invoice is first issued with an expected amount to be paid, and then customers pay this Invoice using their bank app, either by scanning a QR Code or copying the payment information.

You will receive access to a random Invoice Log Dataset. Each Invoice can have several Logs, indicating each step of its lifecycle. Create a report -- using charts, tables, text or whatever visualization tools you find suitable -- to answer the following questions:

1. The deployment of new features in the Production environment is very sensitive and may potentially impact our clients' operations. That means it would be best to deploy new features during the periods of low activity.
   1. **When** is it best to deploy our Invoice application?
2. Our customers are interested in having analytical data on payment conversion.
   1. What percentage of Invoices are **paid** and what percentage of Invoices are **paid after the due date**?
   2. How has the overdue payment rate **evolved** in the available months?
   3. Which **factors** influence whether the Invoice will be paid in time?
3. Invoices may be reversed partially or totally.
   1. What percentage of Invoices are **partially or totally reversed**?
   2. How **long** does it usually take for an Invoice to be reversed?
   3. Which **factors** influence whether the Invoice will be reversed and whether the reversal is partial or total?
4. Any other insight you find relevant. Surprise us!

When you finish, publish your report **privately** to a platform (such as Google Collab, Jupyter Notebook, Excel, Google Sheets or similar. We particularly like Data Studio!) and share it with the email [developers@starkbank.com](mailto:developers@starkbank.com) and [anna.doliveira@starkbank.com](mailto:anna.doliveira@starkbank.com) so we can take a look at your results. We love code, so send us that as well if you had to code anything for your report.

You should receive an email from us in up to one week with our evaluation and, if all goes well, an invite for a chat.

Evaluation

Upon completion, you will be evaluated based on the following criteria:

1. How much have you learned during the trial?
2. How presentable and easy to understand is your report?
3. How correct and straightforward is the information presented?
4. How much did you rely on us to help with technical issues you face? Less is better!
5. How readable and efficient is your code, if any?
6. How quickly did you deliver the finished task? A good report is better than a quick report, but if you can score on both ends, we will be impressed.

Bonus points if you:

* Provide us with insights we weren’t expecting
* Provide us with a dynamic report, rather than a static one
* Find issues in our dataset and is able to work around them

Tips

1. Take a look at our [page](https://starkbank.com/) to learn more about us and to locate relevant resources!
2. Our Sandbox and documentation are freely available in case you want to try using our system. Just give us a shout if you want us to create an account for you (in case you don’t have a CNPJ)

This is it! Have fun and good luck. We hope to hear from you soon!

Sincerely,

Stark Bank Team