

## Data Analyst

### About Timo

Everybody dreams of being rich(er) and fears being poor. Timo supports you in achieving this dream. Financially, we support across the 5 functions of money: moving, managing, accessing, growing, and protecting your money. Being rich however means more than just having a lot of money. Enjoying a rich life includes making money more fun and emotional by embedding banking services into your lifestyle and within your social circle to unlock a truly rich life.

### Case Study

Imagine you are set to join the upcoming digital bank SuperBank that is looking to build out its data reporting function. Until this point, the business has primarily operated upon qualitative feedback and observations. Now, management is very keen to get a better understanding of what their data tells them about the business.

Previously, an intern had started some work but then left in a flurry due to CoVid-19. All he left behind was the CSV provided with this exercise, that he had managed to extract from the database containing some usage information.

Unfortunately, he didn't document his work, so the business is unsure what `txn_type_code` in that file means. However, the business believes that the transaction types contained are:

- Internal Transfers (sender & recipient are both SuperBank customers)
- Interbank Transfer (recipient is not a SuperBank customer)
- Saving Account Withdrawal (money pulled from savings account to the customer's current account)
- Auto Recurring Savings Account Contribution (money automatically pulled from savings account to the customer's current account based on e.g. monthly rule)
- Manual Savings Account Contribution (one-time contribution from a current to a savings account)
- Phone Top-Up (airtime purchase)
- Gift Payments (special transaction type – recipient can but does not have to be a SuperBank customer)

#### **Tasks:**

Take the CSV and prepare an initial report to management based on an exploratory data analysis of the contained information. Areas you could explore include demographic information, average balances, transactions per user, average transaction sizes etc. – ask your own questions about the data and share what you find interesting.

During the interview, you will be given 15-20 minutes to present your work to a delegation from management. Therefore, your findings should be polished into a presentable form.

For this exercise you should be using Python and as a bare minimum and should be documenting your work through a Jupyter Notebook/Colab. Given the business will want to proactively explore the data moving

forward; however, there is a strong(!) preference not to stick with notebooks but move to Streamlit (<https://streamlit.io/>) instead.

#### Data Header:

	A	B	C	D	E	F
1	account_id	date_of_birth	txn_ts	txn_amount	txn_type_code	
2	ID000001	1/12/2000	1/1/2021 11:52	-42000	2	
3	ID000001	1/12/2000	1/1/2021 13:01	-148000	2	
4	ID000001	1/12/2000	1/2/2021 14:41	-1092000	1	
5	ID000001	1/12/2000	1/4/2021 13:55	-197000	1	
6	ID000001	1/12/2000	1/4/2021 14:50	-162000	1	
7	ID000001	1/12/2000	1/4/2021 22:27	-1616000	2	
8	ID000001	1/12/2000	1/5/2021 15:30	-50000	5	
9	ID000001	1/12/2000	1/5/2021 17:38	484000	1	
10	ID000001	1/12/2000	1/7/2021 12:43	-99000	2	
11	ID000001	1/12/2000	1/8/2021 1:49	-306000	2	
12	ID000001	1/12/2000	1/8/2021 10:39	-194000	2	

#### Follow Us

- ✈ Career Page: <https://bit.ly/timocareerpage>
- ✈ Email: [care@timo.vn](mailto:care@timo.vn)
- ✈ Hiring: [hiring@timo.vn](mailto:hiring@timo.vn)
- ✈ LinkedIn: [www.linkedin.com/company/timo-digital-bank/](https://www.linkedin.com/company/timo-digital-bank/)
- ✈ Fanpage: [www.facebook.com/yourtimo](https://www.facebook.com/yourtimo)
- ✈ Instagram: [www.instagram.com/timobank/](https://www.instagram.com/timobank/)