



# Assignment for Business Intelligence Summer 2021 Internship

We are delighted to see you applying! Now is your time to shine. We've prepared a task for you so that you can show your skills and allow us to understand how you approach problems in general. Good luck!

## Exercise

In this exercise you get to look at a piece of our sales data and build insightful customer retention charts for different product lines. We've transformed the data to be almost ready for your needs, but as in real life, you will need to do some more transformations to it.

You can use any tools available to you, but do compile the resulting charts into a presentation with screenshots.

## About the data

The data is contained in two csv files:

- `first_purchases.csv`
- `purchases.csv`

The data is an artificial dataset that could be produced in our purchase process, where a user does their first and possibly following purchases from Wolt during a six month timeframe. We have separated these purchases into two files, the first one containing only the users' first ever purchases from Wolt during 2020/05 - 2020/10 , and the second one containing all purchases from these users during that same 6 month period.

## Fields

In the first\_purchases file we have the following fields:

- **User First Purchase Month:** timestamp of the month when a user did their first Wolt purchase in UTC0. This is fixed to month for all rows.
- **First Purchase Product Line:** Product line of the first purchase. This can be either 'Restaurant' or 'Retail store'.
- **User ID:** Unique User ID of the user who made the first purchase.
- **Purchase ID:** Unique Purchase ID of the purchase.
- **Venue ID:** Unique Venue ID of the venue where the purchase was from.

In the purchases file we have mostly these same fields:

- **Purchases Time Delivered:** timestamp of the month when a user did a purchase in UTC0. This is fixed to month for all rows.
- **Product Line:** Product line of the purchase. This can be either 'Restaurant' or 'Retail store'.
- **User ID:** Unique User ID of the user who made the purchase.
- **Purchase ID:** Unique Purchase ID of the purchase.
- **Venue ID:** Unique Venue ID of the venue where the purchase was from.

## Build visualizations

Your task is to build visualizations of the monthly customer retention per product line. Customer retention can be described as the process of engaging existing customers to continue using the service after the first purchase. In this task we want to see how well Wolt manages to retain its customers month after month based on the monthly cohort of when users did their first ever purchase.

Furthermore, the visualizations should be able to communicate:

- Cohort based monthly retention for **Retail** product line

- Cohort based monthly retention for **Restaurant** product line
- Other retention related visualizations or insights that ought to be presented in this context in your opinion

In addition, please also answer the following questions:

- What assumptions about the data have you made to produce the retention charts?
- Was there anything problematic in the data?
- What other measures than retention would you look at when analysing customers' satisfaction to a product/service?

Choose chart types, color palettes and layouts that convey the message best. Please return the assignment in **English**.