# Winter 2021 Data Science Intern Challenge

Please complete the following questions, and provide your thought process/work. You can attach your work in a text file, link, etc. on the application page. Please ensure answers are easily visible for reviewers!

**Question 1:** Given some sample data, write a program to answer the following: [click here to access the required data set](https://docs.google.com/spreadsheets/d/16i38oonuX1y1g7C_UAmiK9GkY7cS-64DfiDMNiR41LM/edit#gid=0)

On Shopify, we have exactly 100 sneaker shops, and each of these shops sells only one model of shoe. We want to do some analysis of the average order value (AOV). When we look at orders data over a 30 day window, we naively calculate an AOV of $3145.13. Given that we know these shops are selling sneakers, a relatively affordable item, something seems wrong with our analysis.

1. Think about what could be going wrong with our calculation. Think about a better way to evaluate this data.

The orders data might be affected by the shop. For example, one order from the shop with shop ID 42 has an order amount of 70400, which is an outlier from the rest. Instead of taking the average over all the shops, we should do analysis of the AOV for each shop individually.

1. What metric would you report for this dataset?

I would report the highest, lowest, and median value of the AOVs for each of the 100 sneaker shops.

1. What is its value?

Highest: 235101.49

Lowest: 161.16

Median: 308.89

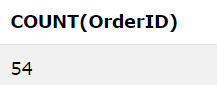
**Question 2:** For this question you’ll need to use SQL. [Follow this link](https://www.w3schools.com/SQL/TRYSQL.ASP?FILENAME=TRYSQL_SELECT_ALL) to access the data set required for the challenge. Please use queries to answer the following questions. Paste your queries along with your final numerical answers below.

1. How many orders were shipped by Speedy Express in total?

Queries:

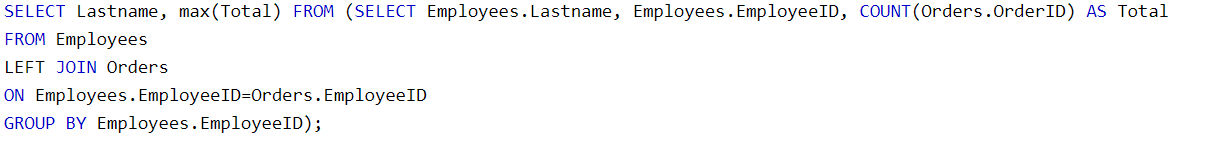


Final numerical result is 54.

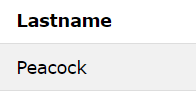


1. What is the last name of the employee with the most orders?

Queries:

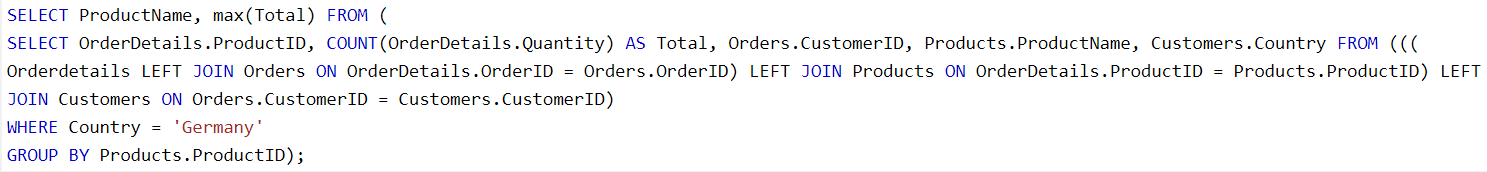


The last name is Peacock.



1. What product was ordered the most by customers in Germany?

Queries:



Gorgonzola Telino was ordered the most by customers in Germany.

