

# Fall 2021 Data Science Intern Challenge

## Question 1:

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.

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

By looking at the 'order\_amount' column distribution, it can be interpreted that the data is right skewed and by looking at the boxplot, it is evident that the outliers present in the data will have significant impact on the Mean value. So, better way to evaluate this data is to choose a metric which does not get effected by outliers.

- b. What metric would you report for this dataset?

I would choose Median as a metric to report for this dataset. For the reason that it does not get effected by outliers and in this case Median is a better option as a measure of central tendency.

- c. What is its value?

Median value for this data is 284.

My [Work link](#) for this question.

## Question 2:

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

```
SELECT COUNT(o.OrderID) AS orders_shipped
FROM Orders o
INNER JOIN Shippers s
ON o.ShipperID = s.ShipperID
HAVING s.ShipperID = 1;
```

Answer = 54

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

```
SELECT e.LastName, COUNT(o.OrderID)
FROM Employees e
JOIN Orders o
ON e.EmployeeID = o.EmployeeID
GROUP BY 1
ORDER BY 2 DESC
LIMIT 1;
```

Answer = Peacock

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

```
SELECT p.ProductName, p.ProductID, COUNT(*)
FROM Products p
JOIN OrderDetails od
ON p.ProductID = od.ProductID
JOIN Orders o
ON o.OrderID = od.OrderID
JOIN Customers c
ON c.CustomerID = o.CustomerID
GROUP BY 1
HAVING c.Country = 'Germany'
ORDER BY 2 DESC
```

Answer = Rössle Sauerkraut and Lakkalikööri

1. Tell us about a time you messed up and what you learned from it.

When I was freelancing for a startup for Machine Learning(ML) applications, I was the only ML developer. Initially I was too excited with my role and the kind of applications company is planning to develop, and I set too many goals for myself and overloaded my work. Later I started to realize that I might not be able to get all the work done and communicated the same with my team leader. I then started to communicate with web development teams in regards to integrating a ML application to the website and divided work among ourselves. Communicating with other teams helped me in learning HTML, CSS and Javascript. We were finally able to finish our application on time.

2. If you were to open a Shopify store, what would you sell and why

If I'm to open a Shopify store, I would like to sell books. The primary reason for choosing books is because I read pretty much every day. Secondly, in my personal reading experience, I came across great books from unpopular or debut authors. Through my store, such authors can hire readers and ask them to rate the book, and based on the rating and genre, the books will be recommended to the user.

3. Any last thoughts?

I wish I could go to Mars with Elon Musk.