

**Question 1:** Given some sample data, write a program to answer the following: [click here to access the required data set](#)

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.

**Hypothesis:**

We are calculating the **order amount** with the **total number of Orders** which is resulting in 3145.13\$ as the Average Order Value. This value is evaluated as  **$sum(Order Amount)/count(Order Id)$**  values are as below:

**$(15725640/5000)$**

This would've been correct if we're calculating for all orders, but in our case orders can have multiple items, (*such as there are 17 orders which have an order value of 704000 as they have 2000 items in each order and there are multiple orders with more than 1 items*), so we have to calculate the **order amount per Item and we need to calculate the resulting value with orders.**

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

Need to calculate the new metric like below:

- **Amount Per Item =  $([Order Amount]/[Total Items])$**
- **AOV = Amount Per Item/count(OrderId)**

- c. What is its value?

The resulting Value is **387.7\$** as the Average value of the Sneakers.