

## SQL Case Study 1: Data Mart Analysis



## INTRODUCTION:

Data Dart is my latest venture and I want your help to analyze the sales and performance of my venture. In June 2020 - large scale supply changes were made at Data Mart. All Data Mart products now use sustainable packaging methods in every single step from the farm all the way to the customer.

I need your help to quantify the impact of this change on the sales performance for Data Mart and its separate business areas.

## SCHEMA USED: WEEKLY\_SALES TABLE

Column name	Data type
week_date	date
region	varchar(20)
platform	varchar(20)
segment	varchar(10)
customer	varchar(20)
transactions	int
sales	int

# CASE STUDY QUESTIONS

## A. Data Cleansing Steps

In a single query, perform the following operations and generate a new table in the data\_mart schema named clean\_weekly\_sales:

1. Add a week\_number as the second column for each week\_date value, for example any value from the 1st of January to 7th of January will be 1, 8th to 14th will be 2, etc.
2. Add a month\_number with the calendar month for each week\_date value as the 3rd column
3. Add a calendar\_year column as the 4th column containing either 2018, 2019 or 2020 values
4. Add a new column called age\_band after the original segment column using the following mapping on the number inside the segment value

segment	age_band
1	Young Adults
2	Middle Aged
3 or 4	Retirees

5. Add a new demographic column using the following mapping for the first letter in the segment values:

segment | demographic |  
C | Couples |  
F | Families |

6. Ensure all null string values with an "unknown" string value in the original segment column as well as the new age\_band and demographic columns
7. Generate a new avg\_transaction column as the sales value divided by transactions rounded to 2 decimal places for each record

## B. Data Exploration

1. Which week numbers are missing from the dataset?
2. How many total transactions were there for each year in the dataset?
3. What are the total sales for each region for each month?
4. What is the total count of transactions for each platform
5. What is the percentage of sales for Retail vs Shopify for each month?
6. What is the percentage of sales by demographic for each year in the dataset?
7. Which age\_band and demographic values contribute the most to Retail sales?

