Hi there,

Congratulations on making it to the next step of the Shopflo Product Analyst hiring process. We are looking forward to getting to know you better. Through this assignment, we hope to give you a sense of the kind of work you'd be expected to do at Shopflo while simultaneously helping us understand your fit for this role at our company. We hope you'll have fun with it!

Instructions:

- Complete the SQL tasks first and then move on to the analytical questions. Try to restrict yourself to the suggested time mentioned for each question, if possible, however this is only a recommendation.
- Use any SQL environment you are comfortable with and present your results and code.
- For the analytical questions, provide clear, concise, and structured responses.
- DO NOT use LLM tools for your answers. We are pretty good at being able to tell which
  answers were AI-generated and which were not (at least for now :P).

The Assessment

Part 1: SQL Task (30 minutes)

Objective: Assess proficiency with SQL and ability to analyze data.

Context

You have access to a database of a beauty brand named "**GetReady**" with three key tables: `orders`, `customers`, and `products`. As a Product Analyst, your task is to analyze sales performance, customer demographics, and product popularity using SQL. The database includes orders placed by customers, customer demographic data, and product details.

Note: Some customers may not have placed any orders yet, and some products may not have been sold.

Table Schemas

1. `orders`
    - `order_id` (INT): Unique identifier for each order
    - `customer_id` (INT): ID of the customer who placed the order
    - `product_id` (INT): ID of the product purchased
    - `order_date` (DATE): The date when the order was placed
    - `quantity` (INT): Number of units ordered
    - `order_amount` (DECIMAL): Total amount for the order
2. `customers`
    - `customer_id` (INT): Unique identifier for each customer
    - `customer_name` (VARCHAR): Name of the customer
    - `age` (INT): Age of the customer
    - `country` (VARCHAR): Country of the customer
    - `signup_date` (DATE): Date when the customer signed up
3. `products`
    - `product_id` (INT): Unique identifier for each product
    - `product_name` (VARCHAR): Name of the product
    - `category` (VARCHAR): Category of the product (e.g., 'Electronics', 'Apparel', 'Home')
    - `price` (DECIMAL): Price per unit of the product

Questions

1. Revenue from Active and Inactive Customers:

Write a SQL query to calculate the total revenue generated by **active customers** (customers who have placed at least one order) and **inactive customers** (customers who have signed up but not yet placed any orders). The result should include: customer name, total orders and customer type (active or inactive)

2. Top Products by Revenue and Unused Products:

Write a SQL query that lists the **top 3 products by total revenue** along with their category, quantity, and total revenue. Additionally, also list products that **haven't been sold in the same table**.

3. Customer Segmentation Based on Average Spending:

You want to segment customers into three groups based on their average order

amount. Define an approach to come up with a segment definition for customers based on the data you have and. Write a SQL query that groups customers based on their average order amount and displays *(you are can be creative here and make certain assumptions if you find something missing :)*

Provide a brief explanation of your approach in each of the above questions.

Part 2: Analytical Questions (20-30 minutes)

Objective: Assess analytical and problem-solving skills.

Question 1:

Scenario: “GetReady” noticed a drop in number of orders in the last month for a particular product. How would you approach identifying the cause? You can make certain assumptions but make sure you list all of them in your solution

Question 2:

Scenario: You need to design an event tracking schema for a new feature that allows users to create and add products to a “Wishlist” on a D2C e-commerce website. Describe five key events you would track and explain why each is important.