Instructions

The following test should take under 30 minutes. Please submit your responses along with any relevant material. You can respond to the email if you have any questions.

Part I - SQL Test

You have 3 tables with orders, customers, and items:

Orders

order_id	order_datetime	customer_id	item_id	amount	quantity
a01	2020-01-01 7:23:59	b27	c87	20	2
a02	2020-01-02 8:13:27	b33	c56	100	3
a02	2020-01-02 8:13:27	b33	c57	39	1
a03	2020-01-02 13:26:39	b42	c31	587	10

Customer

customer_id	name	gender	country	age
b27	sam	m	Singapore	20
b28	bob	m	Indonesia	27
b29	julie	f	Korea	43

Items

item_id	category
c87	sportswear
c56	skincare
c57	food

Please send the relevant SQL code to answer the following questions:
1. What's the total sales amount for each month among customers who are older than 18?

2. Show the most popular category in terms of sales quantity for each country and each gender in 2020.
3. List the customer_id and their second order_id of customers who placed more than 10 orders in the last 7 days.

Part II - Data Modeling Test

You are working with a client who runs a direct-to-customer e-commerce website for sportswear called 5xSports.

5xSports posts ads on various social media, such as instagram, facebook, google paid search, youtube etc. Potential customers could click on the ads and be redirected to the 5xSports website, where they could browse products, sign up for an account, and place orders. 5xSports tracks all the website traffic, user activities and click events, sportswear products, and order information.

5xSports is investing on growth next year, their top priority is to know how to allocate their marketing budget to the right channel that generates the most sales. Please design a data model which can help 5xSports make more informed business decisions and have better data transparency on their business performance.