Query 1 : The total amount spent and the country for the Pending delivery status for each country.

Solution 1:

1. Writing these solutions on the basis of schema provided by the team & on new data model too.
2. In the old schema we have to join customers & shipping table since we have customer ids common in both tables. We can make a join on that and filter out only the ‘pending’ status orders from shipping table. Then we can join this table with orders table to get amount spent for each of that order. Since we have country in the customers table we can aggregate on the basis of that and find total amount spent.
3. In the new suggested data model We can join customers , orders & shippings table. Filter out only ‘pending’ status orders and can aggregate the data using above steps.
4. Please refer to data model & query for detailed information.

Query 2 : the total number of transactions, total quantity sold, and total amount spent for each customer, along with the product details.

Solution 2:

1. Since we don’t have any product details in schema provided, we have to use new data model for that. We have to create 4 entities basically – customer, order, product, shipping where orders will be main fact table and customer, product, shipping will be dimension tables.
2. Then we can join customers, orders and products table & aggregate data on the basis of each customer and product then we can aggregate and find total amount spent, total units sold and total transactions which basically is total number of orders. Please refer to data model & query for detailed information.

Query 3: the maximum product purchased for each country.

Solution 3:

1. If I understand it correctly we want to find product which is most purchased in each of the country and here what we can do to find it.
2. Again we have to use new data model in which we have product information also.
3. We can join customers, orders, products table and on the basis of each country and product we can find total units sold i.e. sum(total units sold) then we can use window function to rank desc the total units sold and take partition as country.
4. Finally we can choose rank = 1 to get the most purchased product for each of the country.

Query 4: the most purchased product based on the age category less than 30 and above 30.

Solution 4:

1. Here we have to find most purchased product according to age category.
2. We can join customers, orders, products as in above query.
3. We have to again leverage the new data model.
4. We can use case statement to segregate age >= 30 and age<30 in customers table.
5. Then we can aggregate our data on the basis of age and product, use partition as age, we can rank total units sold of product sold desc. We can take rank = 1and can get the most purchased product in each age category.

Query 5: the country that had minimum transactions and sales amount

Solution 5:

1. We can join customers, orders
2. Aggregate on the basis of country and find total sales amount & count(\*) of orders.
3. We can use window function to rank the country on the basis of sales amount and no of orders.
4. We can use ascending order while using window function.
5. Then we can select rank = 1 to get country with minimum transactions and sales amount.