Exercise:

Imagine you run an online Shopify store and have to manage all the orders, products, and customers. The data are all kept in three tables.

orders has the following columns:

- id
- date
- customer
- customer_id
- fulfilled
- item_id

products has the following columns:

- id
- name
- price
- active
- inventory

customers has the following columns:

- id
- name
- location
- email_subscriber

Use joins and what we learned in previous chapters to find insights about the data. Answer the following questions:

- What are the best selling items? What are the most underperforming ones?
- What are all the orders the customers bought?
- What days had the highest sales? And the lowest?

Solution:

```
-- to check table structures
SELECT *
FROM orders
LIMIT 3;

SELECT *
FROM products
LIMIT 3;

SELECT *
FROM customers
LIMIT 3;
```

Visualization:

id	date	customer	customer_id	fulfilled	item_id
1001	2025-05-10	Sonny Li	9	1	1
1002	2025-05-11	Tea	8	1	1
1003	2025-05-17	TeeJay	4	1	3

id	name	price	active	inventory
1	Corduroy Cap	17.5	1	10
2	Tote Bag	20	1	25
3	Black Hoodie	45	1	49

id	name	location	email_subscriber
1	Elliot Alderson	Brooklyn NY, United States	0
2	Intelagense	Houston TX, United States	1
3	Jared Dunn	Palo Alto CA, United States	1

```
-- 1st question
-- most performing items
SELECT name, item_id, COUNT(item_id) AS tot_item_sales
FROM orders
JOIN products
ON orders.item_id = products.id
WHERE orders.fulfilled = 1
GROUP BY name
ORDER BY COUNT(item_id) DESC;

-- most underperforming items
SELECT name, item_id, COUNT(item_id) AS tot_item_sales
FROM orders
JOIN products
ON orders.item_id = products.id
WHERE orders.fulfilled = 1
GROUP BY name
ORDER BY COUNT(item_id);
```

Visualization:

name	item_id	tot_item_sales
Black Hoodie	3	4
Corduroy Cap	1	3
Sticker Pack	5	1

name	item_id	tot_item_sales
Sticker Pack	5	1
Corduroy Cap	1	3
Black Hoodie	3	4

```
-- 2nd question
-- all the orders bought
SELECT date, name, customer
FROM orders
JOIN products
ON orders.item_id = products.id
WHERE orders.fulfilled = 1;
```

Visualization:

date	name	customer
2025-05-10	Corduroy Cap	Sonny Li
2025-05-11	Corduroy Cap	Tea
2025-05-17	Black Hoodie	TeeJay
2025-05-19	Corduroy Cap	Intelagense
2025-05-20	Black Hoodie	Pikacodes
2025-05-20	Sticker Pack	Deepister
2025-05-20	Black Hoodie	Austin Nasso
2025-05-21	Black Hoodie	Elliot Alderson

```
-- 3rd question
-- day with highest sales
SELECT date, COUNT(date) AS tot_orders, SUM(price) AS tot_revenues
FROM orders
JOIN products
ON orders.item_id = products.id
WHERE orders.fulfilled = 1
GROUP BY date
ORDER BY SUM(price) DESC;
```

```
-- day with lowest sales
SELECT date, COUNT(date) AS tot_orders, SUM(price) AS tot_revenues
FROM orders
JOIN products
ON orders.item_id = products.id
WHERE orders.fulfilled = 1
GROUP BY date
ORDER BY SUM(price);
```

Visualization:

date	tot_orders	tot_revenues
2025-05-20	3	92.99
2025-05-21	1	45
2025-05-17	1	45
2025-05-19	1	17.5
2025-05-11	1	17.5
2025-05-10	1	17.5
date	tot_orders	tot_revenues
2025-05-10	1	17.5
2025-05-11	1	17.5
2025-05-19	1	17.5
2025-05-17	1	45
2025-05-21	1	45
2025-05-20	3	92.99