

## DATABASE MANAGEMENT SYSTEM ASSIGNMENT

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1. Create the tables below in the database. Use foreign keys and primary keys as required.

- Create a table called as student with the following columns student\_id, first\_name, last\_name, birthdate, department\_id, address\_id.
- Create Address table with following columns address\_id, street\_address, city, State, postal\_code
- Create department table department\_id, department name. Make sure you are using the right data type against all the columns.

Solution:

```
CREATE TABLE student (  
    student_id SERIAL PRIMARY KEY,  
    first_name VARCHAR(50),  
    last_name VARCHAR(50),  
    birthdate DATE,  
    department_id INT REFERENCES department(department_id),  
    address_id INT REFERENCES address(address_id)  
);  
  
14 CREATE TABLE address (  
15     address_id SERIAL PRIMARY KEY,  
16     street_address VARCHAR(255),  
17     city VARCHAR(100),  
18     state VARCHAR(50),  
19     postal_code VARCHAR(20)  
20 );  
21  
22 CREATE TABLE department (  
23     department_id SERIAL PRIMARY KEY,  
24     department_name VARCHAR(100) NOT NULL  
25 );  
26  
27 show tables;
```

Result Grid | Filter Rows: | Export: | Wrap

Tables_in_assignment
address
department
student

## 2. Use Sample data from [sampledata.txt](#) to insert data into the database.

Answer:

```
28 • INSERT INTO department (department_id, department_name) VALUES
29     (1, 'Computer Science'),
30     (2, 'Mechanical Engineering'),
31     (3, 'Electrical Engineering'),
32     (4, 'Civil Engineering'),
33     (5, 'Mathematics'),
34     (6, 'Biology');

• INSERT INTO address (address_id, street_address, city, state, postal_code) VALUES
(1, '123 Elm St', 'Springfield', 'IL', '62701'),
(2, '456 Oak St', 'Decatur', 'IL', '62521'),
(3, '789 Pine St', 'Champaign', 'IL', '61820'),
(4, '102 Birch Rd', 'Peoria', 'IL', '61602'),
(5, '205 Cedar Ave', 'Chicago', 'IL', '60601'),
(6, '310 Maple Dr', 'Urbana', 'IL', '61801'),
(7, '415 Oak Blvd', 'Champaign', 'IL', '61821'),
(8, '520 Pine Rd', 'Carbondale', 'IL', '62901');

• INSERT INTO student (student_id, first_name, last_name, birthdate, department_id, address_id) VALUES
(1, 'John', 'Doe', '1995-04-15', 1, 1),
(2, 'Jane', 'Smith', '1996-07-22', 2, 2),
(3, 'Alice', 'Johnson', '1994-11-30', 3, 3),
(4, 'Michael', 'Brown', '1997-02-19', 4, 4),
(5, 'Sophia', 'Davis', '1998-01-05', 5, 5),
(6, 'Daniel', 'Wilson', '1995-06-10', 6, 6),
(7, 'Olivia', 'Martinez', '1997-11-25', 1, 7),
(8, 'Ethan', 'Miller', '1996-03-30', 2, 8);
```

## 3. Write a query to find the total number of students.

Answer:

```
56 • SELECT COUNT(*) FROM student;
```

Result Grid

COUNT(*)
8

4. Write a query to find which department John belongs to.

Answer:

```
58 • SELECT d.department_name
59 FROM student s
60 JOIN department d ON s.department_id = d.department_id
```

---

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	department_name
▶	Computer Science

John belong to Computer Science department.

5. List All Departments with Their Number of Students (Including Departments with No Students)

Answer:

```
64 • SELECT d.department_name, COUNT(s.student_id) AS student_count
65 FROM department d
66 LEFT JOIN student s ON d.department_id = s.department_id
67 GROUP BY d.department_name;
```

---

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	department_name	student_count
▶	Computer Science	2
	Mechanical Engineering	2
	Electrical Engineering	1
	Civil Engineering	1
	Mathematics	1
	Biology	1

## 6. Select all students with their department and address.

Answer:

```
71 • SELECT s.*, d.department_name, a.city, a.street_address
72 FROM student s
73 JOIN department d ON s.department_id = d.department_id
74 JOIN address a ON s.address_id = a.address_id;
75
76
```

	student_id	first_name	last_name	birthdate	department_id	address_id	department_name	city	street_address
▶	1	John	Doe	1995-04-15	1	1	Computer Science	Springfield	123 Elm St
	2	Jane	Smith	1996-07-22	2	2	Mechanical Engineering	Decatur	456 Oak St
	3	Alice	Johnson	1994-11-30	3	3	Electrical Engineering	Champaign	789 Pine St
	4	Michael	Brown	1997-02-19	4	4	Civil Engineering	Peoria	102 Birch Rd
	5	Sophia	Davis	1998-01-05	5	5	Mathematics	Chicago	205 Cedar Ave
	6	Daniel	Wilson	1995-06-10	6	6	Biology	Urbana	310 Maple Dr
	7	Olivia	Martinez	1997-11-25	1	7	Computer Science	Champaign	415 Oak Blvd
	8	Ethan	Miller	1996-03-30	2	8	Mechanical Engineering	Carbondale	520 Pine Rd

## 7. Find all students who are in the 'Computer Science' department

Answer:

```
76 • SELECT s.*
77 FROM student s
78 JOIN department d ON s.department_id = d.department_id
79 WHERE d.department_name = 'Computer Science';
80
81
```

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	1	John	Doe	1995-04-15	1	1
	7	Olivia	Martinez	1997-11-25	1	7

## 8. Update Jane's city name to New York.

Answer:

```
• UPDATE address
  SET city = 'New York'
  WHERE address_id = (
    SELECT address_id FROM student WHERE first_name = 'Jane'
  );
```

```

87 • SELECT s.first_name, s.last_name, a.city
88 FROM student s
89 JOIN address a ON s.address_id = a.address_id
90 WHERE s.first_name = 'Jane';
91

```

Result Grid			Filter Rows:	Export:	Wra
first_name	last_name	city			
Jane	Smith	New York			

## 9. Delete a student from the student table.

Answer:

Before deleting:

```

92 • select * from student;
--

```

Result Grid							Filter Rows:	Edit:	Export/Import:
	student_id	first_name	last_name	birthdate	department_id	address_id			
▶	1	John	Doe	1995-04-15	1	1			
	2	Jane	Smith	1996-07-22	2	2			
	3	Alice	Johnson	1994-11-30	3	3			
	4	Michael	Brown	1997-02-19	4	4			
	5	Sophia	Davis	1998-01-05	5	5			
	6	Daniel	Wilson	1995-06-10	6	6			
	7	Olivia	Martinez	1997-11-25	1	7			
	8	Ethan	Miller	1996-03-30	2	8			
	NULL	NULL	NULL	NULL	NULL	NULL			

After deleting:

```

94 • DELETE FROM student WHERE student_id = 1;
95 • select * from student;
96

```

Result Grid						
Filter Rows:						
	student_id	first_name	last_name	birthdate	department_id	address_id
▶	2	Jane	Smith	1996-07-22	2	2
	3	Alice	Johnson	1994-11-30	3	3
	4	Michael	Brown	1997-02-19	4	4
	5	Sophia	Davis	1998-01-05	5	5
	6	Daniel	Wilson	1995-06-10	6	6
	7	Olivia	Martinez	1997-11-25	1	7
	8	Ethan	Miller	1996-03-30	2	8
★	NULL	NULL	NULL	NULL	NULL	NULL

John with student\_id = 1 is deleted.

## 10. Select all students with their department and address in New York.

Answer:

```

98 • SELECT s.*, d.department_name, a.city
99 FROM student s
100 JOIN department d ON s.department_id = d.department_id
101 JOIN address a ON s.address_id = a.address_id
102 WHERE a.city = 'New York';
103

```

Result Grid								
Filter Rows:								
	student_id	first_name	last_name	birthdate	department_id	address_id	department_name	city
▶	2	Jane	Smith	1996-07-22	2	2	Mechanical Engineering	New York

## 11. Count how many students are in each department

Answer:

```
105 • SELECT d.department_name, COUNT(s.student_id) AS count
106     FROM department d
107     LEFT JOIN student s ON d.department_id = s.department_id
108     GROUP BY d.department_name;
109
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	department_name	count
▶	Computer Science	1
	Mechanical Engineering	2
	Electrical Engineering	1
	Civil Engineering	1
	Mathematics	1
	Biology	1

## 12. Find students who live in 'Springfield'

Answer:

```
111 • SELECT s.* FROM student s
112     JOIN address a ON s.address_id = a.address_id
113     WHERE a.city = 'Springfield';
114
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	student_id	first_name	last_name	birthdate	department_id	address_id
--	------------	------------	-----------	-----------	---------------	------------

There is no student from city = Springfield.

### 13. Select students whose birthday falls in February

Answer:

```
115 • SELECT * FROM student
116     WHERE EXTRACT(MONTH FROM birthdate) = 2;
117
118
```

Result Grid						
Filter Rows: <input type="text"/>						
Edit:    Export/Import						
	student_id	first_name	last_name	birthdate	department_id	address_id
▶	4	Michael	Brown	1997-02-19	4	4
*	NULL	NULL	NULL	NULL	NULL	NULL

### 14. Get the department and address details for a specific student, example john

Answer:

Since John is deleted from database because of earlier query, took the example of Jane

```
119 • SELECT d.department_name, a.*
120     FROM student s
121     JOIN department d ON s.department_id = d.department_id
122     JOIN address a ON s.address_id = a.address_id
123     WHERE s.first_name = 'Jane';
124
```

Result Grid						
Filter Rows: <input type="text"/>						
Export:  Wrap Cell Content:						
	department_name	address_id	street_address	city	state	postal_code
▶	Mechanical Engineering	2	456 Oak St	New York	IL	62521



## 15. Find all students who are born within 1995 to 1998

Answer:

```
125 • SELECT * FROM student
126 WHERE birthdate BETWEEN '1995-01-01' AND '1998-12-31';
---
```

Result Grid | Filter Rows:  | Edit: | Export/Import

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	2	Jane	Smith	1996-07-22	2	2
	4	Michael	Brown	1997-02-19	4	4
	5	Sophia	Davis	1998-01-05	5	5
	6	Daniel	Wilson	1995-06-10	6	6
	7	Olivia	Martinez	1997-11-25	1	7
	8	Ethan	Miller	1996-03-30	2	8
*	NULL	NULL	NULL	NULL	NULL	NULL

## 16. List all students and their corresponding department names, sorted by department

Answer:

```
128 • SELECT s.*, d.department_name
129 FROM student s
130 JOIN department d ON s.department_id = d.department_id
131 ORDER BY d.department_name;
132
---
```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	student_id	first_name	last_name	birthdate	department_id	address_id	department_name
▶	6	Daniel	Wilson	1995-06-10	6	6	Biology
	4	Michael	Brown	1997-02-19	4	4	Civil Engineering
	7	Olivia	Martinez	1997-11-25	1	7	Computer Science
	3	Alice	Johnson	1994-11-30	3	3	Electrical Engineering
	5	Sophia	Davis	1998-01-05	5	5	Mathematics
	2	Jane	Smith	1996-07-22	2	2	Mechanical Engineering
	8	Ethan	Miller	1996-03-30	2	8	Mechanical Engineering

17. Find the number of students in each department who are living in 'Champaign'

Answer:

```
133 • SELECT d.department_name, COUNT(*) AS count
134 FROM student s
135 JOIN department d ON s.department_id = d.department_id
136 JOIN address a ON s.address_id = a.address_id
137 WHERE a.city = 'Champaign'
138 GROUP BY d.department_name;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content
department_name	count		
Electrical Engineering	1		
Computer Science	1		

18. Retrieve the names of students who live on 'Pine' street

Answer:

```
140 • SELECT s.*
141 FROM student s
142 JOIN address a ON s.address_id = a.address_id
143 WHERE LOWER(a.street_address) LIKE '%pine%';
```

Result Grid

Filter Rows:

Export:

Wrap Cell Content

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	3	Alice	Johnson	1994-11-30	3	3
	8	Ethan	Miller	1996-03-30	2	8



19. Update the department of a student with student\_id = 6 to 'Mechanical Engineering'

Answer:

```
145 • UPDATE student
146 SET department_id = (
147     SELECT department_id FROM department WHERE department_name = 'Mechanical Engineering'
148 )
149 WHERE student_id = 6;
```

Query to check:



```
151 • SELECT s.student_id, s.first_name, s.department_id, d.department_name
152 FROM student s
153 JOIN department d ON s.department_id = d.department_id
154 WHERE s.student_id = 6;
155
156
157
```

Result Grid				
Filter Rows: <input type="text"/>				
Export: 				
Wrap Cell Content: 				
	student_id	first_name	department_id	department_name
▶	6	Daniel	2	Mechanical Engineering

20. Find the student(s) who live in the city 'Chicago' and are in the 'Mathematics' department

Answer:

```
156 • SELECT s.*
157 FROM student s
158 JOIN department d ON s.department_id = d.department_id
159 JOIN address a ON s.address_id = a.address_id
160 WHERE d.department_name = 'Mathematics' AND a.city = 'Chicago';
161
```

Result Grid						
Filter Rows: <input type="text"/>						
Export: 						
Wrap Cell Content: 						
	student_id	first_name	last_name	birthdate	department_id	address_id
▶	5	Sophia	Davis	1998-01-05	5	5

## 21. List all students who have an address in 'Urbana' or 'Peoria'

Answer:

```
162 • SELECT s.*
163 FROM student s
164 JOIN address a ON s.address_id = a.address_id
165 WHERE a.city IN ('Urbana', 'Peoria');
166
167
```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	4	Michael	Brown	1997-02-19	4	4
	6	Daniel	Wilson	1995-06-10	2	6

## 22. Find the student with the highest student\_id

Answer:

```
167 • SELECT * FROM student
168 ORDER BY student_id DESC
169 LIMIT 1;
170
```

Result Grid

Filter Rows:

Edit:

Export/Im

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	8	Ethan	Miller	1996-03-30	2	8
✱	NULL	NULL	NULL	NULL	NULL	NULL

### 23. Find all students who are not in the 'Computer Science' department

Answer:

```
171 • SELECT s.*
172 FROM student s
173 JOIN department d ON s.department_id = d.department_id
174 WHERE d.department_name != 'Computer Science';
---
```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	2	Jane	Smith	1996-07-22	2	2
	3	Alice	Johnson	1994-11-30	3	3
	4	Michael	Brown	1997-02-19	4	4
	5	Sophia	Davis	1998-01-05	5	5
	6	Daniel	Wilson	1995-06-10	2	6
	8	Ethan	Miller	1996-03-30	2	8

### 24. Count the total number of addresses in the 'Champaign' city

Answer:

```
176 • SELECT COUNT(*)
177 FROM address
178 WHERE city = 'Champaign';
179
---
```

Result Grid | Filter Rows:

	COUNT(*)
▶	2

**25. Find the name of the student who lives at '520 Pine Rd'**

Answer:

```
180 • SELECT s.*
181 FROM student s
182 JOIN address a ON s.address_id = a.address_id
183 WHERE a.street_address = '520 Pine Rd';
184
---
```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	student_id	first_name	last_name	birthdate	department_id	address_id
▶	8	Ethan	Miller	1996-03-30	2	8

**26. Get the average age of students in the 'Electrical Engineering' department**

Answer:

```
185 • SELECT AVG(TIMESTAMPDIFF(YEAR, s.birthdate, CURDATE())) AS avg_age
186 FROM student s
187 JOIN department d ON s.department_id = d.department_id
188 WHERE d.department_name = 'Electrical Engineering';
---
```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	avg_age
▶	30.0000

**27. List the students, their department, and the city where they live, but only for those in departments starting with 'M'**

Answer:

```
190 • SELECT s.*, d.department_name, a.city
191 FROM student s
192 JOIN department d ON s.department_id = d.department_id
193 JOIN address a ON s.address_id = a.address_id
194 WHERE d.department_name LIKE 'M%';
195
```

Result Grid								
		Filter Rows:			Export:		Wrap Cell Content:	
	student_id	first_name	last_name	birthdate	department_id	address_id	department_name	city
▶	2	Jane	Smith	1996-07-22	2	2	Mechanical Engineering	New York
	5	Sophia	Davis	1998-01-05	5	5	Mathematics	Chicago
	6	Daniel	Wilson	1995-06-10	2	6	Mechanical Engineering	Urbana
	8	Ethan	Miller	1996-03-30	2	8	Mechanical Engineering	Carbondale

**28. Delete a student from the 'Mechanical Engineering' department**

Answer:

```
• DELETE FROM student
  WHERE department_id = (
    SELECT department_id FROM department WHERE department_name = 'Mechanical Engineering'
  )
LIMIT 1;
```

Verification Query:

```
202 • SELECT *
203 FROM student
204 WHERE department_id = (
205     SELECT department_id FROM department WHERE department_name = 'Mechanical Engineering'
206 )
207 LIMIT 1;
```

Result Grid						
		Filter Rows:			Edit:	
					Export/Import:	
	student_id	first_name	last_name	birthdate	department_id	address_id
▶	6	Daniel	Wilson	1995-06-10	2	6
*	NULL	NULL	NULL	NULL	NULL	NULL



Download [order.sql](#)

Open PG Admin and open query tool and select any database of your choice.

Click on “Open file” and select [order.sql](#) from your device and execute it.

Questions:

### 1. Retrieve All Orders with Their Customer Details and Current Status

Answer:

```
94 • SELECT o.order_id, o.order_date, o.total_amount,  
95         c.first_name, c.last_name, s.status_name  
96 FROM order_schema.orders o  
97 JOIN order_schema.customer c ON o.customer_id = c.customer_id  
98 JOIN order_schema.status s ON o.status_id = s.status_id;  
99  
100
```

Result Grid						
Filter Rows: <input type="text"/>						
Export:  Wrap Cell Content:						
	order_id	order_date	total_amount	first_name	last_name	status_name
▶	1	2025-02-15	1499.98	John	Doe	Shipped
	4	2025-02-18	149.99	John	Doe	Cancelled
	2	2025-02-16	199.99	Jane	Smith	Pending
	3	2025-02-17	499.99	Emily	Jones	Shipped

### 2. Get the Total Value of Orders for a Given Customer in a Specific Time Period

Answer:

```
100 • SELECT SUM(total_amount) AS total_value  
101 FROM order_schema.orders  
102 WHERE customer_id = 1  
103 AND order_date BETWEEN '2025-02-15' AND '2025-02-18';
```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	total_value
▶	1649.97



### 3. Find the Most Expensive Order by Customer

Answer:

```
105 • SELECT customer_id, MAX(total_amount) AS max_order_amount
106 FROM order_schema.orders
107 GROUP BY customer_id;
108
109
110
111
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
customer_id	max_order_amount		
1	1499.98		
2	199.99		
3	499.99		

### 4. Find the Total Revenue for Each Product Based on Orders

Answer:

```
109 • SELECT p.product_name, SUM(oi.quantity * oi.price) AS total_revenue
110 FROM order_schema.order_items oi
111 JOIN order_schema.product p ON oi.product_id = p.product_id
112 GROUP BY p.product_name;
113
114
115
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
product_name	total_revenue		
Laptop	999.99		
Smartphone	999.98		
Headphones	449.97		

5. Write a query to retrieve the order ID, customer ID, and the total amount of each order. If the total amount is null, display '0.00' instead.

Answer:

```
114 • SELECT order_id, customer_id,  
115       IFNULL(total_amount, 0.00) AS total_amount  
116 FROM order_schema.orders;  
117
```

Result Grid			
	order_id	customer_id	total_amount
▶	1	1	1499.98
	2	2	199.99
	3	3	499.99
	4	1	149.99

6. Retrieve the Order History of a Specific Customer Along with Product Details

Answer:

```
119 • SELECT o.order_id, o.order_date, p.product_name, oi.quantity, oi.price  
120 FROM order_schema.orders o  
121 JOIN order_schema.order_items oi ON o.order_id = oi.order_id  
122 JOIN order_schema.product p ON oi.product_id = p.product_id  
123 WHERE o.customer_id = 1;  
124  
125
```

Result Grid					
	order_id	order_date	product_name	quantity	price
▶	1	2025-02-15	Laptop	1	999.99
	1	2025-02-15	Smartphone	1	499.99
	4	2025-02-18	Headphones	1	149.99

## 7. Get the Average Order Value Per Customer in the Last 30 Days.

Answer:

```
127 • SELECT customer_id, AVG(total_amount) AS avg_order_value
128 FROM order_schema.orders
129 WHERE order_date >= CURDATE() - INTERVAL 30 DAY
130 GROUP BY customer_id;
```

Result Grid		Filter Rows: <input type="text"/>	Export:	Wrap Cell Content:
	customer_id	avg_order_value		

## 8. Get the Top 5 Products with the Highest Number of Orders.

Answer:

```
132 • SELECT p.product_name, COUNT(DISTINCT oi.order_id) AS num_orders
133 FROM order_schema.order_items oi
134 JOIN order_schema.product p ON oi.product_id = p.product_id
135 GROUP BY p.product_name
136 ORDER BY num_orders DESC
137 LIMIT 5;
138
```

Result Grid		Filter Rows: <input type="text"/>	Export:	Wrap Cell Content:
	product_name	num_orders		
▶	Headphones	2		
	Smartphone	2		
	Laptop	1		

## 9. Get the Customers Who Have Not Placed Any Orders in the Last 60 Days

Answer:

```
139
140 • SELECT c.customer_id, c.first_name, c.last_name
141 FROM order_schema.customer c
142 LEFT JOIN order_schema.orders o
143 ON c.customer_id = o.customer_id AND o.order_date >= CURDATE() - INTERVAL 60 DAY
144 WHERE o.order_id IS NULL;
145
146
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

	customer_id	first_name	last_name
▶	1	John	Doe
	2	Jane	Smith
	3	Emily	Jones

## 10. List the Orders with Products Ordered More Than Once, Sorted by Order Date

Answer:

```
147 • SELECT o.order_id, o.order_date
148 FROM order_schema.orders o
149 JOIN order_schema.order_items oi ON o.order_id = oi.order_id
150 WHERE oi.quantity > 1
151 ORDER BY o.order_date;
152
153
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [IA](#)

	order_id	order_date
▶	2	2025-02-16

## 11.Retrieve the Number of Orders and Total Revenue for Each Status

Answer:

```
153 • SELECT s.status_name,  
154       COUNT(o.order_id) AS num_orders,  
155       SUM(o.total_amount) AS total_revenue  
156 FROM order_schema.orders o  
157 JOIN order_schema.status s ON o.status_id = s.status_id  
158 GROUP BY s.status_name;  
159
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
	status_name	num_orders	total_revenue
▶	Shipped	2	1999.97
	Pending	1	199.99
	Cancelled	1	149.99

## 12.Find Customers Who Have Ordered More Than a Specific Product (e.g., "Laptop")

Answer:

```
161 • SELECT DISTINCT c.customer_id, c.first_name, c.last_name  
162 FROM order_schema.customer c  
163 JOIN order_schema.orders o ON c.customer_id = o.customer_id  
164 JOIN order_schema.order_items oi ON o.order_id = oi.order_id  
165 JOIN order_schema.product p ON oi.product_id = p.product_id  
166 WHERE p.product_name = 'Laptop' AND oi.quantity > 1;  
167
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
	customer_id	first_name	last_name

### 13. Find the Products That Have Never Been Ordered

Answer:

```
168 • SELECT p.product_id, p.product_name
169     FROM order_schema.product p
170     LEFT JOIN order_schema.order_items oi ON p.product_id = oi.product_id
171     WHERE oi.product_id IS NULL;
172
173
174
```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	product_id	product_name
▶	4	Monitor

### 14. Get the Total Quantity of Products Ordered in the Last 7 Days

Answer:

```
173 • SELECT p.product_name, SUM(oi.quantity) AS total_quantity
174     FROM order_schema.order_items oi
175     JOIN order_schema.orders o ON oi.order_id = o.order_id
176     JOIN order_schema.product p ON oi.product_id = p.product_id
177     WHERE o.order_date >= CURDATE() - INTERVAL 7 DAY
178     GROUP BY p.product_name;
```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	product_name	total_quantity
--	--------------	----------------

15. Create a view named `product_details` that includes all columns from the `product` table.

Answer:

```
182 • CREATE VIEW order_schema.product_details AS
183     SELECT * FROM order_schema.product;
184
185 • SELECT * FROM order_schema.product_details;
186
```

Result Grid					Filter Rows:	Export:	W
	product_id	product_name	price	stock_quantity			
▶	1	Laptop	999.99	50			
	2	Smartphone	499.99	100			
	3	Headphones	149.99	200			
	4	Monitor	199.99	75			

16. Create a view named `order_summary` that includes the `order_id`, `customer_id`, `order_date`, `total_amount`, and `status_name` (from the `status` table) for each order.

Answer:

```
188 • CREATE VIEW order_summary AS
189     SELECT
190         o.order_id,
191         o.customer_id,
192         o.order_date,
193         o.total_amount,
194         s.status_name
195     FROM orders o
196     JOIN status s ON o.status_id = s.status_id;
```

```
197 • SELECT * FROM order_summary;
198
```

Result Grid						Filter Rows:	Export:	Wrap C
	order_id	customer_id	order_date	total_amount	status_name			
▶	1	1	2025-02-15	1499.98	Shipped			
	3	3	2025-02-17	499.99	Shipped			
	2	2	2025-02-16	199.99	Pending			
	4	1	2025-02-18	149.99	Cancelled			