

RareBooksIntermediate

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February 2022

1 How many volumes are in inventory?

```
rarebooks=# SELECT COUNT (inventory_id) FROM volume;  
count  
-----  
      70  
(1 row)
```

2 How many volumes have been sold?

```
rarebooks=# SELECT COUNT (inventory_id) FROM volume  
rarebooks=# WHERE sale_id IS NOT NULL;  
count  
-----  
      42  
(1 row)
```

3 How many volumes have not been sold?

```
rarebooks=# SELECT COUNT (inventory_id) FROM volume  
rarebooks=# WHERE sale_id IS NULL;  
count  
-----  
      28  
(1 row)
```

- 4 Consider the set of orders (sales) placed by the customer with phone number 518-555-1111. Return that customer's first and last name, the sale id and date for the set of those orders. Order the result-set by ascending sale id.

```
rarebooks=# SELECT customer.last_name, customer.first_name, sale.sale_id, sale.sale_date
rarebooks=# FROM customer LEFT OUTER JOIN sale ON customer.customer_num = sale.customer_num
rarebooks=# WHERE customer.contact_phone = '518-555-1111'
rarebooks=# ORDER BY sale_id ASC;
 last_name | first_name | sale_id | sale_date
-----+-----+-----+-----
 Jones    | Janice    |      1 | 2021-10-13
 Jones    | Janice    |      2 | 2021-01-05
 Jones    | Janice    |      3 | 2021-06-15
 Jones    | Janice    |     17 | 2021-07-25
(4 rows)
```

- 5 Return the first and last names of all customers who have purchased a volume with the ISBN 978-1-11111-136-1.

```
rarebooks=# SELECT first_name, last_name FROM customer
rarebooks=# WHERE customer_num IN
rarebooks=# (SELECT customer_num FROM sale
rarebooks=# WHERE sale_id IN
rarebooks=# (SELECT sale_id FROM volume
rarebooks=# WHERE ISBN = '978-1-11111-136-1'
rarebooks=# )
rarebooks=# );
 first_name | last_name
-----+-----
 Janice    | Smith
 Mary      | Collins
(2 rows)
```

- 6 Return the first and last names of all customers who purchased both a volume with ISBN 978-1-11111-146-1 and a volume with ISBN 978-1-11111-122-1

```
rarebooks=# SELECT first_name, last_name FROM customer WHERE customer_num IN
rarebooks=# (SELECT customer_num FROM sale WHERE sale_id IN
rarebooks=# (SELECT sale_id FROM volume WHERE ISBN = '978-1-11111-146-1'))
rarebooks=# AND customer_num IN
rarebooks=# (SELECT customer_num FROM sale WHERE sale_id IN
rarebooks=# (SELECT sale_id FROM volume WHERE ISBN = '978-1-11111-122-1'));
 first_name | last_name
-----+-----
 Franklin   | Hayes
(1 row)
```

- 7 Consider the set of all sales made to customers. Return the first and last name of customers, and the sale id and the sale date. The result set must include customers who have not made any purchases to date. In such cases, the sale id and date should be set to null. The result-set should be ordered, first by ascending last name, then by ascending first name.

```
rarebooks=# SELECT customer.first_name, customer.last_name, sale.sale_id, sale.sale_date FROM customer
rarebooks=# LEFT JOIN sale ON customer.customer_num = sale.customer_num
rarebooks=# ORDER BY customer.last_name, customer.first_name;
```

first_name	last_name	sale_id	sale_date
Helen	Brown		
Mary	Collins	11	2020-07-10
Peter	Collins	12	2021-07-10
Jane	Doe	4	2021-06-30
John	Doe		
Edna	Hayes	10	2021-07-10
Edna	Hayes	15	2021-07-12
Franklin	Hayes	6	2021-07-05
Helen	Jerry	9	2021-07-07
Helen	Jerry	7	2021-07-05
Peter	Johnson		
Peter	Johnson		
Janice	Jones	1	2021-10-13
Janice	Jones	2	2021-01-05
Janice	Jones	3	2021-06-15
Janice	Jones	17	2021-07-25
Jon	Jones	13	2021-07-10
Jon	Jones	20	2021-09-01
Jon	Jones	16	2021-07-25
Jane	Smith	18	2021-08-22
Jane	Smith	8	2021-07-07
Janice	Smith	5	2021-06-30
Janice	Smith	19	2021-09-01
Janice	Smith	14	2021-07-10
John	Smith		

(25 rows)