

SQL Intermediate Commands

Home Assignment for Submission

Practice Exercises — Intermediate SQL Commands

Topics mentioned

Intermediate SQL Commands:

- ✓ Aggregate Functions
- ✓ GROUP BY
- ✓ HAVING, AS
- ✓ INNER JOIN, OUTER JOIN
- ✓ UNION

Task description

Polish your skills in using the intermediate SQL commands and functions taught thus far by answering several types of questions in this task.



What you need to do

General Instructions:

- 1 For **item #1**, import this **dataset** to SQL, and address the objective/s for each item. Save the Excel sheet as `.csv` file.
- 2 For **item #2**:
 - a Provide a brief explanation to support your answer for each item.
 - b Provide the SQL statement that will make the syntax valid and the expected data output for each.
- 3 For **item #3**, provide the SQL statement and the expected data output that satisfies the objectives.

Tasks:

- 1 Using the DVD rental dataset, provide the SQL code and the output for this query criterion.
 - a Provide an Excel sheet report of the total sum of payments made by each customer in the payments table. Present it in ascending order. There should be four columns: `customer_id`, `first_name`, `last_name`, and `sum`.

Hints:

- You will need to join the `customer` & `payment` tables.
- You will be using an aggregate function, **JOIN** and **ORDER BY**, in this query.
- Remember that when joining two tables with the same column names, if you put the column name alone (i.e., `customer_id`), it will error out because it is ambiguous. You will have to put the table name and column name (i.e., `customer.customer_id`)
- There is a pgAdmin function for you to be able to extract/download your query as a `.csv` file.

- b Provide the SQL syntax and output of customer IDs having an average payment amount of less than 3.

- 2 Why would these SQL syntaxes fail?

a

```
SELECT
    first_name,
    last_name,
    district
FROM customer
INNER JOIN address
ON address_id = address_id
```

b

```
SELECT
    customer_id,
    SUM(amount)
FROM payment
GROUP BY customer_id
HAVING amount > 100
```

- 3 Answer the following business scenario questions. Provide the SQL code and the output.
 - a One of the criteria for a customer to become part of the customer loyalty program is that they need to have an accumulated payment made to the DVD rental store of **at least \$200 or more**. As a data analyst, you need to provide a list of customer IDs with a total accumulated payment of at least \$200 or more.

Tips and hints

- ✓ For **item #1**, the expected query output is shown below:

	customer_id [PK] integer	first_name character varying (45)	last_name character varying (45)	sum numeric
1	1	Mary	Smith	114.7
2	2	Patricia	Johnson	123.74
3	3	Linda	Williams	130.76
4	4	Barbara	Jones	81.78
5	5	Elizabeth	Brown	134.65
6	6	Jennifer	Davis	84.75
7	7	Maria	Miller	130.72
8	8	Susan	Wilson	85.77
9	9	Margaret	Moore	78.8
10	10	Dorothy	Taylor	94.76

Completion criteria

Use this checklist before assigning the homework to check if everything is done.

- For 1A, you need to provide an Excel sheet (`.csv` file) for your answer.
- For 2A, provide the SQL syntax and the output.
- For finding errors in SQL (2A and 2B), provide an explanation why the SQL syntax would error out.
- For 3A, provide the SQL code and output.

