



# Project : Database Design and Implementation

**Estimated time needed:** 90 minutes

Congratulations!! You have finished the modules. Now is the time to put your skills to test. Read through the scenario below.

## Scenario

In this scenario, you have recently been hired as a Data Engineer by a New York based coffee shop chain that is looking to expand nationally by opening a number of franchise locations. As part of their expansion process, they want to streamline operations and revamp their data infrastructure.

Your job is to design their relational database systems for improved operational efficiencies and to make it easier for their executives to make data driven decisions.

Currently their data resides in several different systems: accounting software, suppliers' databases, point of sales (POS) systems, and even spreadsheets. You will review the data in all of these systems and design a central database to house all of the data. You will then create the database objects and load them with source data. Finally, you will create subsets of data that your business partners require, export them, and then load them into staging databases that use different RDBMS.

## Software used in this project

In this project, you will use [PostgreSQL Database](#), [IBM Db2 Database](#), and [MySQL](#). These are all relational database management systems (RDBMS) designed to efficiently store, manipulate, and retrieve the data.



## Data used in this project

In this project, you will be working with a subset of data from the [Coffee shop sample data](#).

You will use a modified version of the data for the project, so to succeed in the project, download the linked files when prompted in the instructions. You do not need to use any data from the original source.

In your scenario, you will be working with data from the following sources:

- Staff information held in a spreadsheet at HQ
- Sales outlet information held in a spreadsheet at HQ
- Sales data output as a CSV file from the POS system in the sales outlets
- Customer data output as a CSV file from a bespoke customer relationship management system
- Product information maintained in a spreadsheet exported from your supplier's database

## Objectives

After completing this lab, you will be able to:

- Identify entities.
- Identify attributes.
- Create an entity relationship diagram (ERD) using the pgAdmin ERD Tool.
- Normalize tables.
- Define keys and relationships.
- Create database objects by generating and running the SQL script from the ERD Tool.
- Create a view and export the data.
- Create a materialized view and export the data.
- Import data into a Db2 database.
- Import data into a MySQL database.

## Task 1: Identify entities

The first step when designing a new database is to review any existing data and identify the entities for your new system.

1. The following image shows sample data from each of the data sources that you will be working with to design your new central database. Review the image and identify the entities you plan to create.

staff					
staff_id	first_name	last_name	position	start_date	location
1	Sue	Tindale	CFO	08/03/2001	HQ
2	Ian	Tindale	CEO	3/8/2001	HQ
3	Marny	Hermione	Roaster	10/24/2007	WH
4	Chelsea	Claudia	Roaster	3/7/2003	WH
5	Alec	Isadora	Roaster	2/4/2008	WH
6	Xena	Rahim	Store Manager	7/24/2016	3
7	Kelsey	Cameron	Coffee Wrangler	10/18/2003	3
8	Hamilton	Emi	Coffee Wrangler	9/2/2005	3
9	Caldwell	Veda	Coffee Wrangler	9/9/2013	3
10	Ima	Winifred	Coffee Wrangler	10/12/2016	3

sales outlet						
sales_outlet_id	sales_outlet_type	address	city	telephone	postal_code	manager
2	warehouse	164-14 Jamaica Ave	Jamaica	972-871-0402	11432	
3	retail	32-20 Broadway	Long Island City	777-718-3190	11106	6
4	retail	604 Union Street	Brooklyn	619-347-5193	11215	11
5	retail	100 Church Street	New York	343-212-5151	10007	16

sales transaction								
transaction_id	transaction_date	transaction_time	sales_outlet_id	staff_id	customer_id	product_id	quantity	price
1	27/04/2019	09:53:55	8	42	0	38	2	3.75
1	27/04/2019	09:53:55	8	42	0	84	1	0.8
2	27/04/2019	08:00:34	8	42	0	51	2	3
3	27/04/2019	09:04:58	8	42	0	33	1	3.5
4	27/04/2019	08:48:32	8	42	8232	27	1	3.5
5	27/04/2019	09:21:40	8	45	8223	24	1	3

customer							
customer_id	customer_name	customer_email	customer_since	customer_card_number	birthdate	gender	
3001	Kelly Key	Venus@adipiscing.edu	04/01/2017	908-424-2890	29/05/1950	M	
3002	Clark Schroeder	Nora@fames.gov	07/01/2017	032-732-6308	30/07/1950	M	
3003	Elvis Cardenas	Brianna@tellus.edu	10/01/2017	459-375-9187	30/09/1950	M	
3004	Rafael Estes	Ina@non.gov	13/01/2017	576-640-9226	01/12/1950	M	
3005	Colin Lynn	Dale@Integer.com	15/01/2017	344-674-6569	01/02/1951	M	

product					
product_id	product_category	product_type	product_name	description	price
1	Coffee beans	Organic Beans	Brazilian - Organic	It's like Carnival in a cup. Clean and smooth.	18
2	Coffee beans	House blend Beans	Our Old Time Diner Blend	Our packed blend of beans that is reminiscent of the cup of coffee you used to get at a diner.	18
3	Coffee beans	Espresso Beans	Espresso Roast	Our house blend for a good espresso shot.	14.75
4	Coffee beans	Espresso Beans	Primo Espresso Roast	Our premium single source of hand roasted beans.	20.45
5	Coffee beans	Gourmet Beans	Columbian Medium Roast	A smooth cup of coffee any time of day.	15
6	Coffee beans	Gourmet Beans	Ethiopia	From the home of coffee.	21

- o Note: You might find it useful to download a copy of this image or open it in another browser tab for reference later in the lab.

2. Make a list of the entities you have identified.

## Task 2: Identify attributes

In this task, you will identify the attributes for one of the entities that you plan to create.

1. Using the information from the sample data in the image from Task 1, identify the attributes for the entity that will store the sales transaction data.
2. Make a list of the sales transaction attributes that you identified.

## Task 3: Create an ERD

Now that you have defined some of your attributes and entities, you can determine the tables and columns for them and create an ERD.

1. Open a new terminal from the side-by-side Cloud IDE.
2. Use the `start_postgres` command to start a PostgreSQL service session in the Cloud IDE.
3. Use the pgAdmin weblink to open pgAdmin in a new tab in your browser.
4. Create a new database named `COFFEE`, view the schemas in the new `COFFEE` database, and then start a new ERD project.
5. Add a table to the ERD for the sale transactions entity using the information in the following table. Consider what naming convention to use so that your colleagues will be able to understand your data and to ensure that the names are valid in other RDBMS. And use the sample data shown in the image in Task 1 to determine appropriate data types for each column.

Sales transaction
Transaction id
Date
Time
Sales outlet
Staff
Customer
Product
Quantity
Price

6. Take a screenshot of your ERD and save it as Task3A.png or Task3A.jpg.
7. Add a table to the ERD for the product entity using the information in the following table. Consider what naming convention to use so that your colleagues will be able to understand your data and to ensure that the names are valid in other RDBMS. And use the sample data shown in the image in Task 1 to determine appropriate data types for each column.

Product
Product id
Category
Type
Product
Description
Price

8. Take a screenshot of your ERD and save it as Task3B.png or Task3B.jpg.

## Task 4: Normalize tables

When reviewing your ERD you notice that it does not conform to second normal form. In this task, you will normalize some of the tables within the database.

1. Review the data in the sales transaction table. Note that the transaction id column does not contain unique values because some transactions include multiple products.
2. Determine which columns should be stored in a separate table to remove the repeating rows and to put this table into second normal form.

3. Add a new table named `sales_detail` to the ERD, define the columns in the new table, and delete the moved columns from the sales transaction table, leaving a matching column in each of two tables to later create a relationship between them.
4. Take a screenshot of your ERD and save it as Task4A.png or Task4A.jpg.
5. Review the data in the product table. Note that the product category and product type columns contain redundant data.
6. Determine which columns should be stored in a separate table to reduce redundant data and to put this table into second normal form.
7. Add a new table named `product_type` to the ERD, define the columns in the new table, and delete the moved columns from the product table, leaving a matching column in each of two tables to later create a relationship between them.
8. Take a screenshot of your ERD and save it as Task4B.png or Task4B.jpg.

## Task 5: Define keys and relationships

After normalizing your tables, you can define their primary keys and define relationships between the tables in your ERD.

1. Identify an appropriate column in each table to be a primary key and create the primary keys in the tables in your ERD.
2. Take a screenshot of your ERD and save it as Task5A.png or Task5A.jpg.
3. Identify the relationships between the following pairs of tables and then create the relationships in your ERD:
  - o `sales_detail` to `sales_transaction`
  - o `sales_detail` to `product`
  - o `product` to `product_type`
4. Take a screenshot of your ERD and save it as Task5B.png or Task5B.jpg.

## Task 6: Create database objects by generating and running the SQL script from the ERD Tool

Now that your design is complete, you will generate an SQL script from your ERD which you could use to create your database schema. For the purposes of this project, you will then use a provided SQL script to ensure that you will be able to successfully load the sample data into the schema. Finally, you will load the existing data from the various data sources into your new database schema.

1. Use the Generate SQL functionality in the ERD Tool to create an SQL script from your ERD.
2. Download the `GeneratedScript.sql` file below to your local computer storage.
  - o [GeneratedScript.sql](#)
3. In pgAdmin, open the Query Tool, upload and open the `GeneratedScript.sql` file from your local computer storage, and then execute the script to create the tables defined in the ERD. Verify that the tables now exist in the `public` schema of the `COFFEE` database.
4. Take a screenshot of the tables shown in the tree-view pane on the left-hand side of the page and save it as Task6A.png or Task6A.jpg.
5. Download the `CoffeeData.sql` file below to your local computer storage.
  - o [CoffeeData.sql](#)
6. In pgAdmin, open another instance of the Query Tool, upload and open the `CoffeeData.sql` file from your local computer storage, and then execute the script to populate the tables you just created.
7. In pgAdmin, view the first 100 rows of the `sales_detail` table.
8. Take a screenshot of the Data Output pane and save it as Task6B.png or Task6B.jpg.

## Task 7: Create a view and export the data

The external payroll company have requested a list of employees and the locations at which they work. This should not include the CEO or CFO who own the company. In this task, you will create a view in your PostgreSQL database that returns this information and export the results to a CSV file.

1. In your COFFEE database, create a new view named `staff_locations_view` using the following SQL:

```
SELECT staff.staff_id,
       staff.first_name,
       staff.last_name,
       staff.location
  FROM staff
 WHERE "position" NOT IN ('CEO', 'CFO');
```

2. View all the rows returned from the view.
3. Save the results of the query to a file named `staff_locations_view.csv` on your local computer storage.
4. Take a screenshot of the view shown in the tree-view pane on the left-hand side of the page alongside the results in the Data Output pane, and save it as Task7.png or Task7.jpg.

## Task 8: Create a materialized view and export the data

A marketing consultant requires access to your product data in their MySQL database for a marketing campaign. You will create a materialized view in your PostgreSQL database that returns this information and export the results to a CSV file.

1. In your COFFEE database, create a new materialized view named `product_info_m-view` using the following SQL:

```
SELECT product.product_name, product.description, product_type.product_category
  FROM product
  JOIN product_type
    ON product.product_type_id = product_type.product_type_id;
```

2. Refresh the materialized view with data.
3. View all the rows returned from the view.
4. Save the results of the query to a file named `product_info_m-view.csv` on your local computer storage.
5. Take a screenshot of the view shown in the tree-view pane on the left-hand side of the page alongside the results in the Data Output pane, and save it as Task8.png or Task8.jpg.

## Task 9: Import data into a Db2 database

The external payroll company have asked you to upload the staff location information to their Db2 database.

1. In a new browser tab, go to <https://cloud.ibm.com/login>, log in using your credentials, and then open a console for your Db2 on Cloud instance that you created earlier in this course.
2. Use the Load Data feature to load a new table named `STAFF_LOCATIONS` with the staff location information saved in the `staff_locations_view.csv` file that you exported from the view you created in Task 7.
3. Explore the new table and then view the data in it.
4. Take a screenshot of the contents of the new table and save it as Task9.png or Task9.jpg.

## Task 10: Import data into a MySQL database

The marketing consultant has asked you to upload the product information to their MySQL database.

1. In the terminal from the side-by-side Cloud IDE, use the `start_mysql` command to start a MySQL service session in the Cloud IDE.
2. Use the browser weblink to open phpMyAdmin in a new tab in your browser.
3. In phpMyAdmin, create a new database named `coffee_shop_products`, and then import the product information saved in the `product_info_m-view.csv` file from your materialized view into a new table in the `coffee_shop_products` database.
4. Browse the contents of the new table.

5. Take a screenshot of the contents of the new table and save it as Task10.png or Task10.jpg.

## Author(s)

- Lin Joyner

## Other Contributor(s)

- 

## Changelog

Date	Version	Changed by	Change Description
2021-04-01	1.0	Lin Joyner	Created initial version

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# Final project Database Design and Implementation

Enviado em January 13, 2022

[Link compartilhável](#)

## AVISO

**Task 1:** Submit the list of entities that you identified as part of Task 1.

(4 pts)

staff, sales outlet, sales transaction, customer, product



## PARÂMETROS

Did the learner submit a list of entities that matches the following?

- Staff
- Sales outlet
- Sale transaction
- Customer
- Product

0 ponto

Incorrect. The learner did not submit a response or none of the entities identified are correct.

1 ponto

Partially correct. The learner submitted a list correctly identifying at least 1 or 2 out of the 5 entities.

The names that the learner used for the entities can differ from the ones shown here, but should identify the same item. For example, the 'sales outlet' entity could be called a 'store' entity.

2 pontos

Partially correct. The learner submitted a list correctly identifying 3 out of the 5 entities.

The names that the learner used for the entities can differ from the ones shown here, but should identify the same item. For example, the 'sales outlet' entity could be called a 'store' entity.

3 pontos

Partially correct. The learner submitted a list correctly identifying 4 out of the 5 entities.

The names that the learner used for the entities can differ from the ones shown here, but should identify the same item. For example, the 'sales outlet' entity could be called a 'store' entity.

4 pontos

Correct. The learner submitted a list correctly identifying all 5 of the entities.

The names that the learner used for the entities can differ from the ones shown here, but should identify the same item. For example, the 'sales outlet' entity could be called a 'store' entity.

#### AVISO

**Task 2:** Submit the list of attributes that you identified as part of Task 2.

(4 pts)

transaction id, date, time, sales outlet, staff id, customer id

## PARÂMETROS

Did the learner submit a list of attributes for the sales transaction entry that is similar to the following?

### Sale transaction

- Transaction id
- Date
- Time
- Sales outlet
- Staff
- Customer
- Product
- Quantity
- Price

- 0 ponto

Incorrect. The learner did not submit a response or did not identify 2 or more of the attributes required.

- 1 ponto

Partially correct. The learner submitted a lists correctly identifying 2 or 3 attributes from the example above.

The names that the learner used for the entities and attributes can differ from the ones shown here, but should identify the same item. For example, the 'Staff' attribute could be called 'Staff id' or 'Employee' instead

2 pontos

Partially correct. The learner submitted a list correctly identifying 4 or 5 attributes from the example above.

The names that the learner used for the entities and attributes can differ from the ones shown here, but should identify the same item. For example, the 'Staff' attribute could be called 'Staff id' or 'Employee' instead.

3 pontos

Partially correct. The learner submitted a list correctly identifying 6 or 7 attributes from the example above.

The names that the learner used for the entities and attributes can differ from the ones shown here, but should identify the same item. For example, the 'Staff' attribute could be called 'Staff id' or 'Employee' instead.

4 pontos

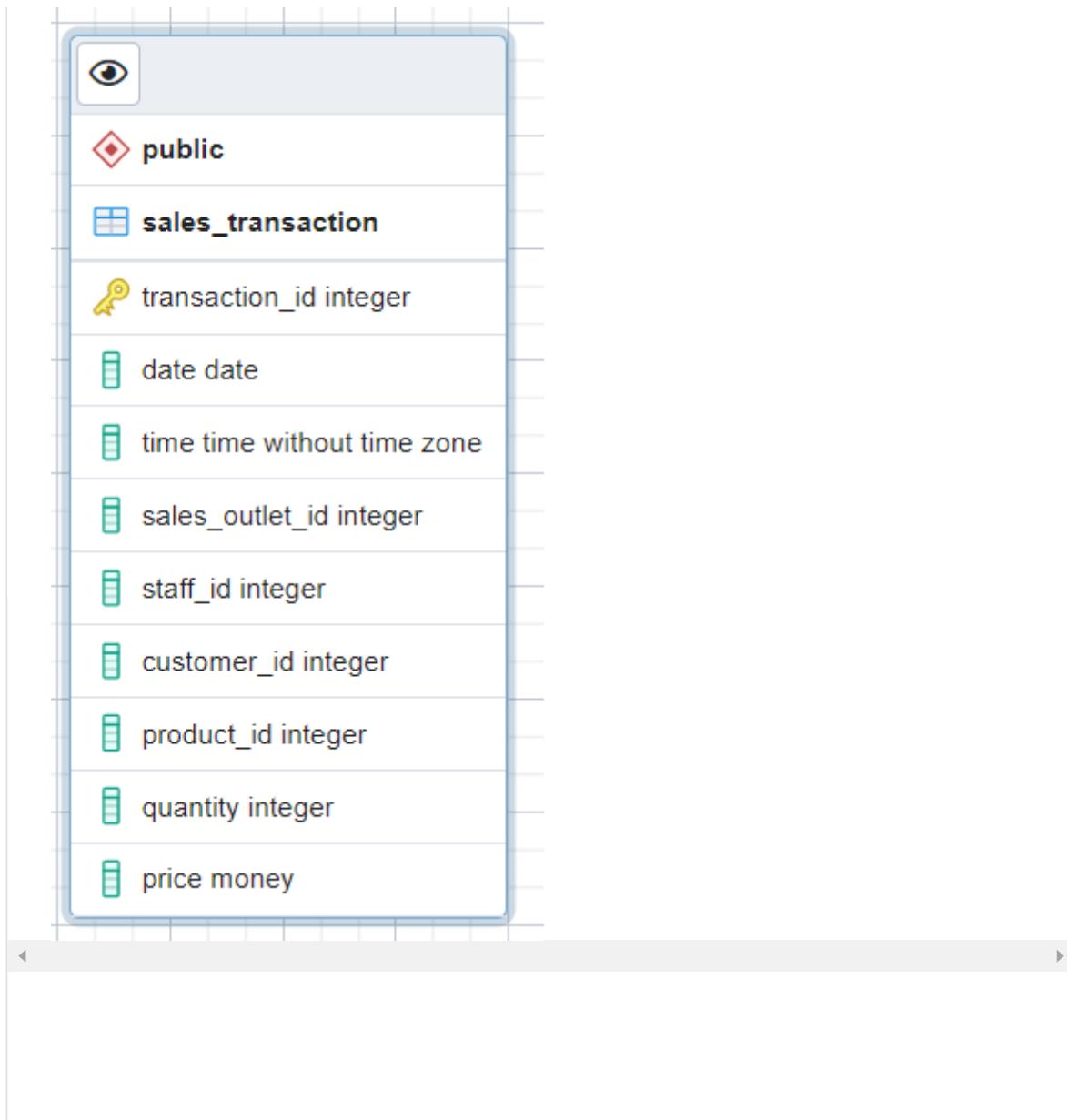
Correct. The learner submitted a list correctly identifying 8 or 9 attributes from the example above.

The names that the learner used for the entities and attributes can differ from the ones shown here, but should identify the same item. For example, the 'Staff' attribute could be called 'Staff id' or 'Employee' instead.

## AVISO

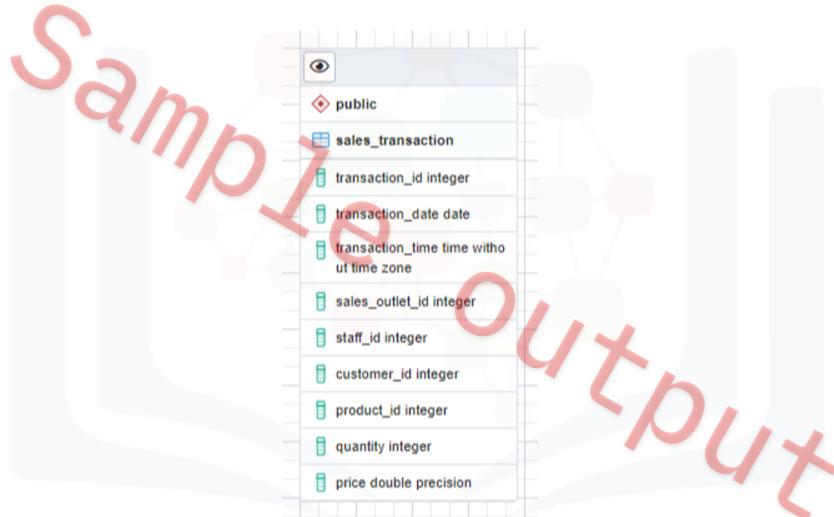
**Task 3A:** Submit the screenshot that you took as part of Task 3 and saved as Task3A.png or Task3A.jpg

(2 pts)



## PARÂMETROS

Did the learner submit a screenshot of the sales transaction entity in their ERD that is similar to the following?



TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not create an entity with at least 4 correct columns.

- 1 ponto

Partially correct. The learner submitted a screenshot of the sales transaction entity containing at least 4 of the columns shown in the sample output and those columns had valid data types defined for them.

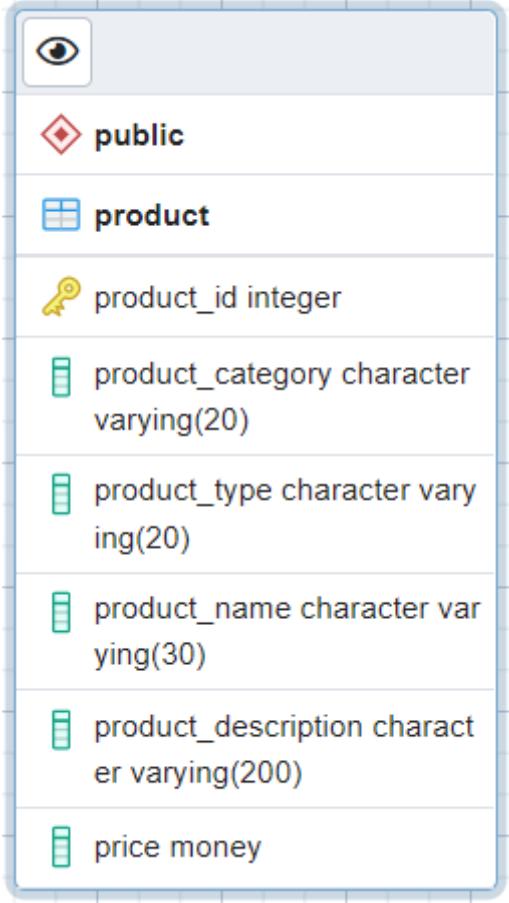
The names that the learner used for the columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output providing that they are from the same category of data type (numeric or text types) and will successfully store the sample data.

#### AVISO

**Task 3B:** Submit the screenshot that you took as part of Task 3 and saved as Task3B.png or Task3B.jpg.

(2 pts) 2 pontos

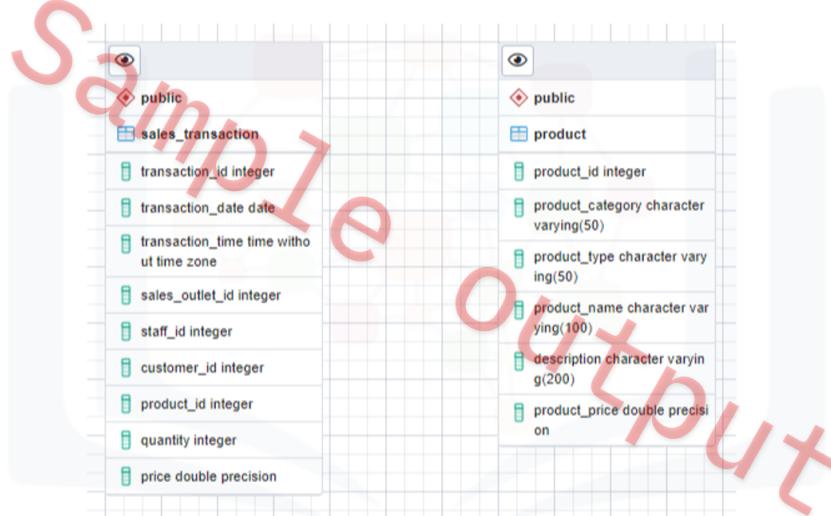
Correct. The learner submitted a screenshot of the sales transaction entity in the sample output and those columns had



for the columns can differ from the ones should identify the same item. The data from the ones shown in the sample output same category of data type (numeric or text the sample data.

## PARÂMETROS

Did the learner submit a screenshot of the product entity in their ERD that is similar to the following?



TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not create an entity with at least 3 correct columns.

- 1 ponto

Partially correct. The learner submitted a screenshot of the product entity containing at least 3 of the columns shown in the sample output and those columns had valid data types defined for them.

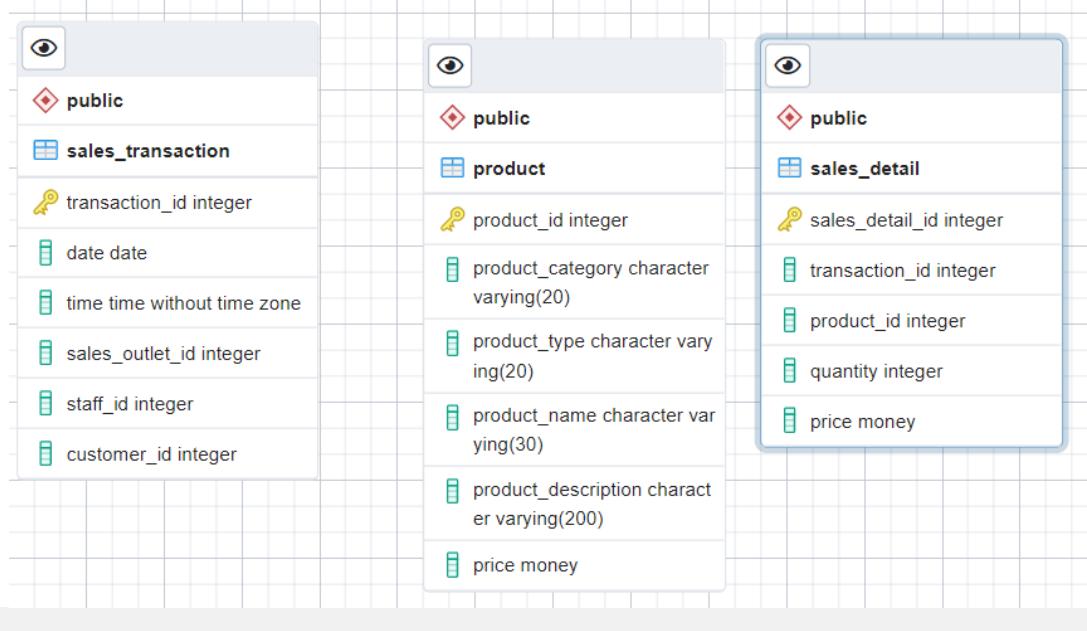
The names that the learner used for the columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output providing that they are from the same category of data type (numeric or text types) and will successfully store the sample data.

2 pontos

Correct. The learner submitted a screenshot of the product entity containing all 6 columns shown in the sample output and those columns had valid data types defined for them.

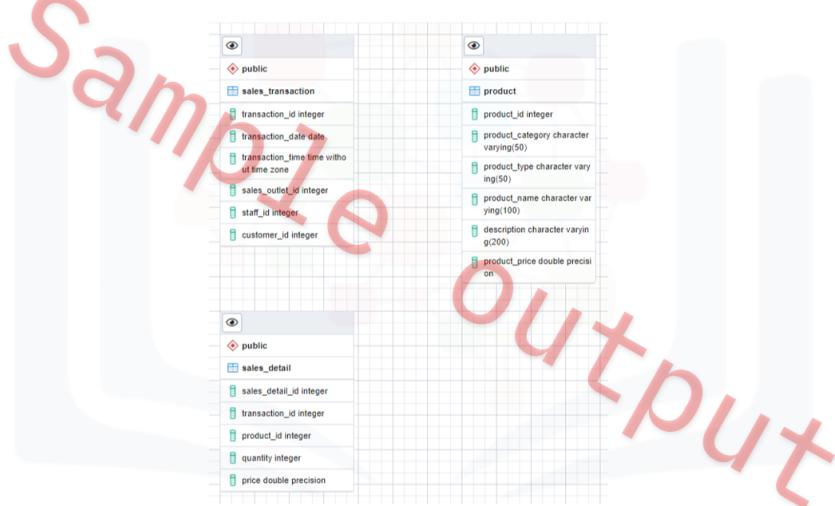
The names that the learner used for the columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output

**Task 4A:** ~~Saving the entity sheet that the student pasted of Task 4A's answer or text Task4A.php~~ Task4A.php (2 pts) fully store the sample data.



## PARÂMETROS

Did the learner submit a screenshot of their sales\_transaction and sales\_detail tables that is similar to the following?



TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).



0 ponto

Incorrect. The learner did not submit a response or did not create a new table with at least 3 correct columns.

1 ponto

Partially correct. The learner submitted a screenshot showing the sales\_detail table containing at least 3 of the correct columns and both tables including the transaction\_id column as shown in the sample output above.

The names that the learner used for the tables and columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output providing that they are from the same category of data type (numeric or text types) and will successfully store the sample data.

 2 pontos

Correct. The learner submitted a screenshot showing the sales\_detail table containing 4 columns, the sales\_transaction table now containing only 6 columns, and both tables including the transaction\_id column as shown in the sample output above.

The names that the learner used for the tables and columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output providing that they are from the same category of data type (numeric or text types) and will successfully store the sample data.

**AVISO**

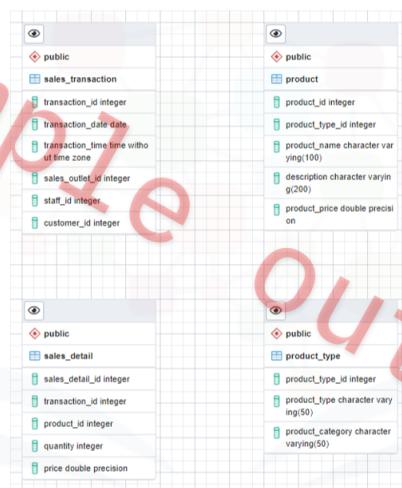
**Task 4B:** Submit the screenshot that you took as part of Task 4 and saved as Task4B.png or Task4B.jpg. (2 pts)

The screenshot shows a database schema diagram with four tables:

- sales\_transaction**: Contains columns: transaction\_id (primary key), date, time, sales\_outlet\_id, staff\_id, and customer\_id.
- product**: Contains columns: product\_id (primary key), product\_name (character varying(30)), product\_description (character varying(200)), price (money), and product\_type\_id.
- sales\_detail**: Contains columns: sales\_detail\_id (primary key), transaction\_id, product\_id, quantity, and price.
- product\_type**: Contains columns: product\_type\_id (primary key), product\_category (character varying(20)), and product\_type (character varying(20)).

## PARÂMETROS

Did the learner submit a screenshot of their product and product\_type tables that is similar to the following?



TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not create a new table with at least 3 correct columns.

- 1 ponto

Partially correct. The learner submitted a screenshot showing the product\_type table containing at least 2 of the correct columns and both tables including the product\_type\_id column as shown in the sample output above.

The names that the learner used for the tables and columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output providing that they are from the same category of data type (numeric or text types) and will successfully store the sample data.

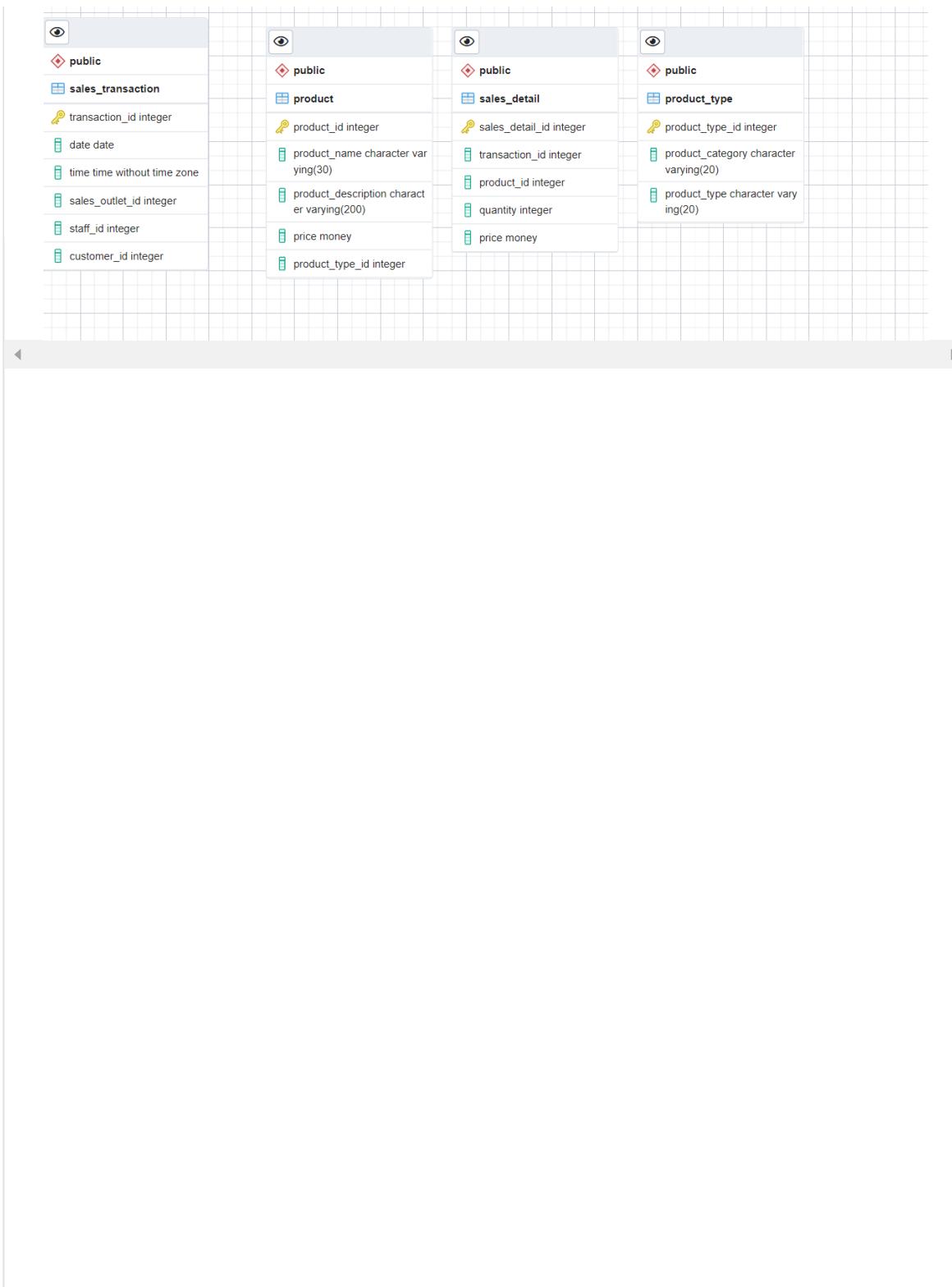
- 2 pontos

Correct. The learner submitted a screenshot showing the product\_type table containing 3 columns, the product table now containing only 5 columns, and both tables including the product\_type\_id column as shown in the sample output above.

The names that the learner used for the tables and columns can differ from the ones shown in the sample output, but should identify the same item. The data types the learner used can differ from the ones shown in the sample output providing that they are from the same category of data type (numeric or text types) and will successfully store the sample data.

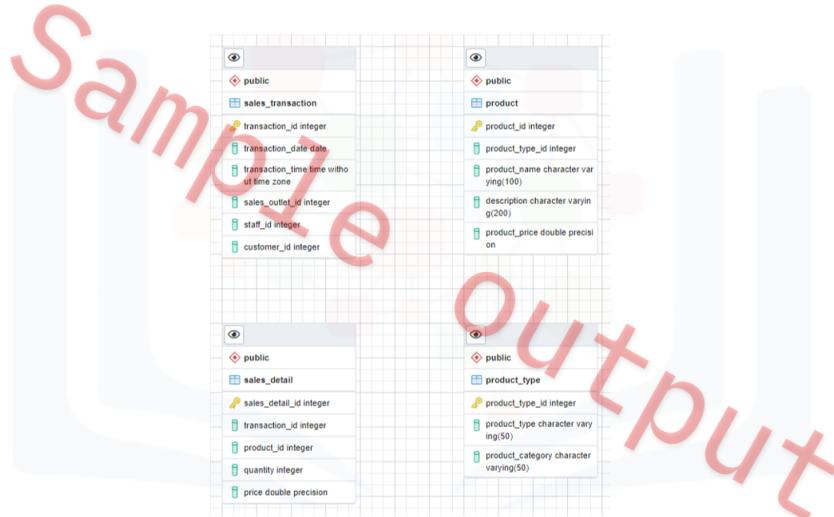
## AVISO

**Task 5A:** Submit the screenshot that you took as part of Task 5 and saved as Task5A.png or Task5A.jpg. (2 pts)



## PARÂMETROS

Did the learner submit a screenshot of their ERD showing primary keys similar to the following?



**TIP:** If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not correctly identify and create at least 2 of the primary keys.

- 1 ponto

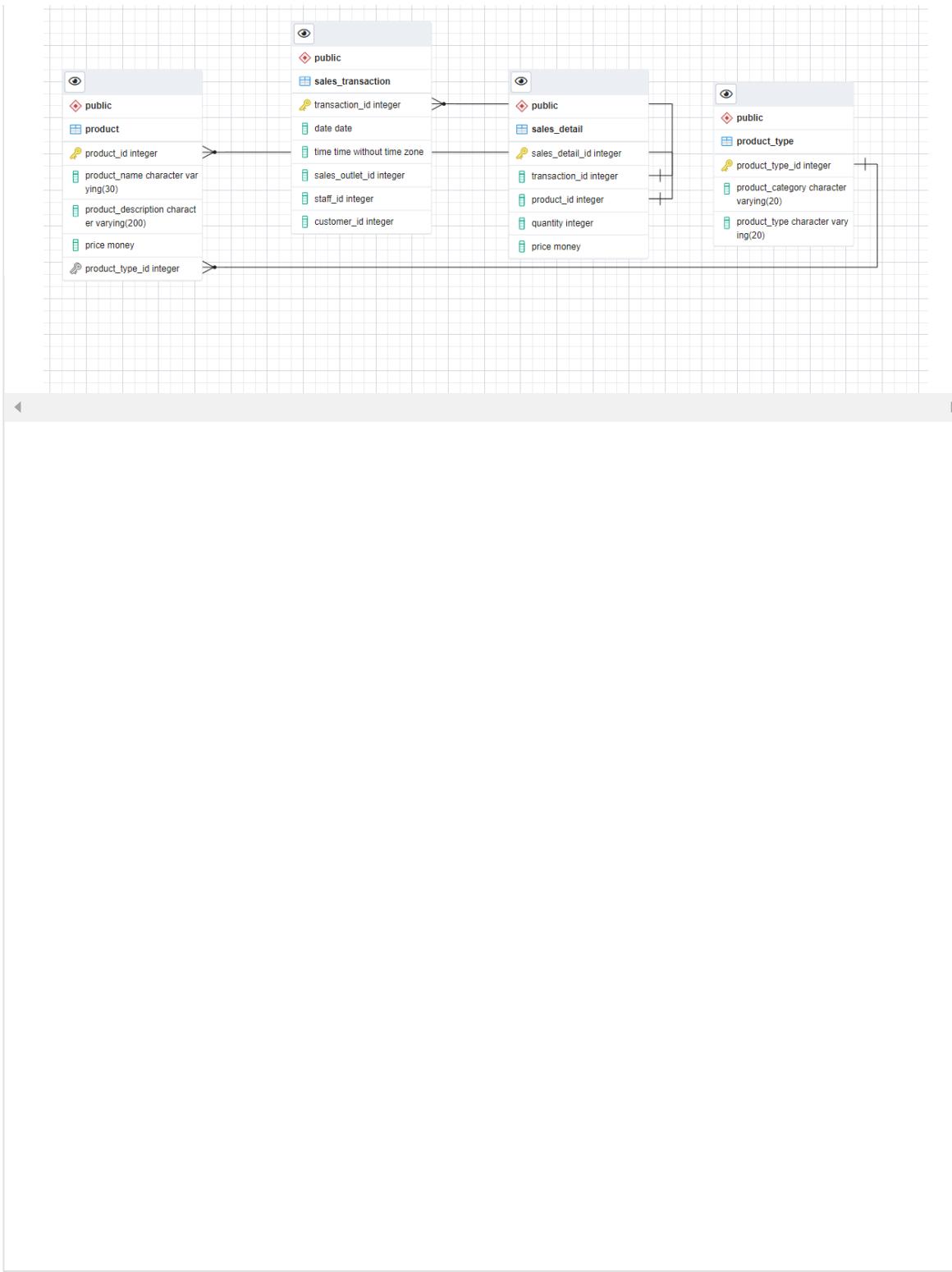
Partially correct. The learner submitted a screenshot with correctly identified and created primary key in at least 1 of the tables as shown in the sample output above.

- 2 pontos

Correct. The learner submitted a screenshot with correctly identified and created primary keys in all 3 of the tables as shown in the sample output above.

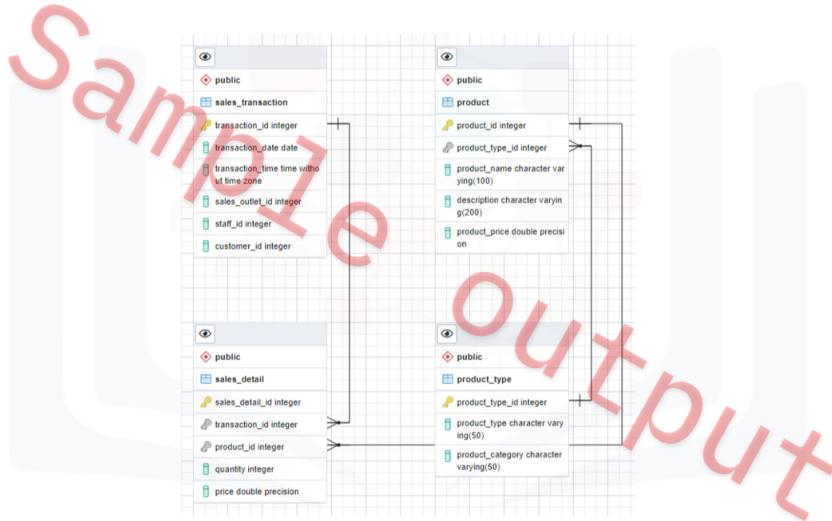
#### AVISO

**Task 5B:** Submit the screenshot that you took as part of Task 5 and saved as Task5B.png or Task5B.jpg. (2 pts)



## PARÂMETROS

Did the learner submit a screenshot of their ERD showing relationships similar to the following?



TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not create at least 1 relationship in the correct direction.

- 1 ponto

Partially correct. The learner submitted a screenshot with at least 1 relationship in the correct direction as shown in the sample output above.

- 2 pontos

Correct. The learner submitted a screenshot with 3 relationships in the correct directions as shown in the sample output above.

#### AVISO

**Task 6A:** Submit the screenshot that you took as part of Task 6 and saved as Task6A.png or Task6A.jpg. (2 pts)

- ✓ **INITIALIZED VIEWS**
- > Procedures
- > 1..3 Sequences
- ✓ Tables (7)
  - > customer
  - > product
  - > product\_type
  - > sales\_detail
  - > sales\_outlet
  - > sales\_transaction
  - > staff

## PARÂMETROS

Did the learner submit a screenshot of the tree-view pane that shows the newly created tables similar to the following?



TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not successfully create any tables.

- 1 ponto

Partially correct. The learner submitted a screenshot showing some, but not all 7, newly created tables in the tree-view pane.

- 2 pontos

Correct. The learner submitted a screenshot showing the newly created 7 tables in the tree-view pane.

#### AVISO

**Task 6B:** Submit the screenshot that you took as part of Task 6 and saved as Task6B.png or Task6B.jpg. (2 pts)

Data Output Explain Messages Notifications

	sales_detail_id [PK] integer	transaction_id integer	product_id integer	quantity integer	price double precision	
1	1	1	38	2	3.75	
2	2	1	84	1	0.8	
3	3	2	51	2	3	
4	4	3	33	1	3.5	
5	5	4	27	1	3.5	
6	6	5	24	1	3	
7	7	6	47	2	3	
8	8	7	57	1	3.1	
9	9	8	47	2	3	
10	10	9	30	2	3	
11	11	10	56	2	2.55	
12	12	11	24	2	3	
13	13	12	34	1	2.45	

## PARÂMETROS

Did the learner submit a screenshot of the Data Output pane that shows data from the sales\_detail table similar to the following?

Sample Output

Data Output						
	transaction_id	product_id	quantity	price		
[PK] integer	integer	integer	integer	double precision		
1	1	1	38	2	3.75	
2	2	1	84	1	0.8	
3	3	2	51	2	3	
4	4	3	33	1	3.5	
5	5	4	27	1	3.5	
6	6	5	24	1	3	
7	7	6	47	2	3	
8	8	7	57	1	3.1	
9	9	8	47	2	3	
10	10	9	30	2	3	
11	11	10	56	2	2.55	
12	12	11	24	2	3	
13	13	12	34	1	2.45	
14	14	13	33	2	3.5	
15	15	14	46	2	2.5	
16	16	15	72	1	2.65	
17	17	15	87	1	2.1	
18	18	16	51	1	3	
19	19	17	51	2	3	
20	20	18	39	1	4.25	

0 ponto

Incorrect. The learner did not submit a response or did not successfully return data from the sales\_detail table.

1 ponto

Partially correct. The learner submitted a screenshot showing the 5 columns but without the first two rows of data showing details for a transaction with transaction\_id of 1 in the second column.

2 pontos

Correct. The learner submitted a screenshot showing the 5 columns with the first two rows of data showing details for a transaction with transaction\_id of 1 in the second column.

## AVISO

**Task 7:** Submit the screenshot that you took as part of Task 7 and saved as Task7.png or Task7.jpg. (4 pts)

The screenshot shows a PostgreSQL database interface with the following details:

- Left Panel (Tree View):**
  - Root node: > FTS Parsers
  - > FTS Templates
  - > Foreign Tables
  - > Functions
  - > Materialized Views
  - > Procedures
  - > Sequences
  - Tables (7)** (highlighted in blue):
    - > customer
    - > product
    - > product\_type
    - > sales\_detail
    - > sales\_outlet
    - > sales\_transaction
    - > staff
  - > Trigger Functions
  - > Types
  - Views (1)** (highlighted in blue):
    - > staff\_locations\_view
  - > Subscriptions
  - > postgres
  - Login/Group Roles
  - Tablespaces
- Top Bar:** public.staff\_locations\_view/COFFEE/postgres@postgres
- Query Editor:** SELECT \* FROM public.staff\_locations\_view
- Data Output:** A table showing the results of the query. The columns are staff\_id, first\_name, last\_name, and location.

staff_id	first_name	last_name	location
1	3	Marry	W.H.
2	4	Chelsea	W.H.
3	5	Alec	Isadora
4	6	Xena	Rahim
5	7	Kelsey	Cameron
6	8	Hamilton	Emi
7	9	Caldwell	Veda
8	10	Ima	Winifred
9	11	Ruth	Leslie
10	12	Britanni	Jorden
11	13	Berk	Derek
12	14	Damon	Sasha
13	15	Remedios	Mari
14	16	Reed	Eve

## PARÂMETROS

Did the learner submit a screenshot of the tree-view pane that shows the new staff\_locations\_view view alongside query results similar to the following?

**Data Output**

staff_id	first_name	last_name	location
1	Marny	Hermione	WH
2	Chelesa	Claudia	WH
3	Alec	Isadora	WH
4	Xena	Rahim	3
5	Kelsey	Cameron	3
6	Hamilton	Emi	3
7	Caldwell	Veda	3
8	Ima	Winifred	3
9	Ruth	Leslie	4
10	Britann	Jorden	4
11	Berk	Derek	4
12	Damon	Sasha	4
13	Remedios	Mari	4
14	Reed	Eve	5
15	Quail	Octavia	5
16	Ezekiel	Rashad	5
17	Peter	Paloma	5
18	Ronan	Magee	5
19	Melodie	Mercedes	6
20	Marny	Dennis	6

**TIP:** If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not successfully create the view.

- 1 ponto

Partially correct. The learner submitted a screenshot showing the newly created view in the tree-view pane, but the results in the Data Output pane do not show any data.

- 2 pontos

Partially correct. The learner submitted a screenshot showing the newly created view in the tree-view pane, but the results in the Data Output pane do not include the staff\_id, first\_name, last\_name, and location columns.

- 3 pontos

Partially correct. The learner submitted a screenshot showing the newly created view in the tree-view pane and the results of querying the view in the Data Output pane, but the first row does not contain the name Marny Hermione.



4 pontos

Correct. The learner submitted a screenshot showing the newly created view

**Task 8:** ~~Select the schema that the results are from of the view saved DataCamp~~  
or Task8.page(4 with) the name Marny Hermione showing in the first row.

The screenshot shows a PostgreSQL database interface. On the left, there is a sidebar with a tree view of database objects under the 'public' schema. A blue selection bar highlights the 'product\_info\_m-view' entry under 'Materialized Views (1)'. The main area is a 'Query Editor' window titled 'public.product\_info\_m-view/COFFEE/postgres@postgres'. It contains a 'Query History' tab and a 'Scratch Pad' tab. Below is a 'Data Output' table showing the results of the query:

	product_name	description	product_category
1	Brazilian - Organic	It's like Carnival in a cup. Clea...	Coffee beans
2	Our Old Time Diner Blend	Our packed blend of beans th...	Coffee beans
3	Espresso Roast	Our house blend for a good es...	Coffee beans
4	Primo Espresso Roast	Our premium single source of ...	Coffee beans
5	Columbian Medium Roast	A smooth cup of coffee any t...	Coffee beans
6	Ethiopia	From the home of coffee...	Coffee beans
7	Jamaican Coffee River	Ya man, it will start your day o...	Coffee beans
8	Civet Cat	The most expensive coffee in ...	Coffee beans
9	Organic Decaf Blend	Our blend of hand picked orga...	Coffee beans
10	Guatemalan Sustainably Grown	Green beans you can roast yo...	Coffee beans
11	Lemon Grass	You will think you are Thailand...	Loose Tea
12	Peppermint	Cool and refreshing to help ca...	Loose Tea
13	English Breakfast	The traditional cup to start yo...	Loose Tea

## PARÂMETROS

Did the learner submit a screenshot of the tree-view pane that shows the new product\_info\_m-view materialized view alongside query results similar to the following?

product_name	description	product_category
character varying (100)	character varying (250)	character varying (50)
1 Brazilian - Organic	It's like Carnival in a cup. Cle...	Coffee beans
2 Our Old Time Diner Blend	Our packed blend of beans th...	Coffee beans
3 Espresso Roast	Our house blend for a good es...	Coffee beans
4 Primo Espresso Roast	Our premium single source of...	Coffee beans
5 Columbian Medium Roast	A smooth cup of coffee any ti...	Coffee beans
6 Ethiopia	From the home of coffee...	Coffee beans
7 Jamaican Coffee River	Ya man, it will start your day o...	Coffee beans
8 Gavel Cat	The most expensive coffee in ...	Coffee beans
9 Organic Decaf Blend	Our blend of hand picked orga...	Coffee beans
10 Guatemalan Sustainably Grown	Green beans you can roast yo...	Coffee beans
11 Lemon Grass	You will think you are Thailand...	Loose Tea
12 Peppermint	Cool and refreshing to help ca...	Loose Tea
13 English Breakfast	The traditional cup to start yo...	Loose Tea
14 Earl Grey	A full leaf of Orange Pekoe ble...	Loose Tea
15 Serenity Green Tea	Mountain grown and harvested...	Loose Tea
16 Traditional Blend Chai	A traditional blend...	Loose Tea
17 Morning Sunrise Chai	Fair trade and organic and ha...	Loose Tea
18 Spicy Eye Opener Chai	A spicier blend to awaken you...	Loose Tea
19 Dark chocolate	This drinking chocolate is sm...	Packaged Chocolate
20 Sustainably Grown Organic	Certified organic containing th...	Packaged Chocolate

TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

0 ponto

Incorrect. The learner did not submit a response or did not successfully create the materialized view.

1 ponto

Partially correct. The learner submitted a screenshot showing the newly created materialized view in the tree-view pane, but the results in the Data Output pane do not show any data.

2 pontos

Partially correct. The learner submitted a screenshot showing the newly created materialized view in the tree-view pane, but the results in the Data Output pane do not include the product\_name, description, and product\_category columns.

3 pontos

Partially correct. The learner submitted a screenshot showing the newly created materialized view in the tree-view pane and the results of querying the view in the Data Output pane, but the first row does not contain the product\_name Brazilian – Organic.

 4 pontos

Correct. The learner submitted a screenshot showing the newly created materialized view in the tree-view pane and the results of querying the view in the Data Output pane, with the product\_name Brazilian – Organic showing in the first row.

## AVISO

**Task 9:** Take Submit the screenshot that you took as part of Task 9 and saved as Task9.png or Task9.jpg. (4 pts)

RWM48321.STAFF\_LOCATIONS

Voltar

Exportar para CSV

STAFF_ID SMALLINT	FIRST_NAME VARCHAR(8)	LAST_NAME VARCHAR(8)	LOCATION VARCHAR(2)
1 3	Marny	Hermione	WH
2 4	Chelsea	Claudia	WH
3 5	Alec	Isadora	WH
4 6	Xena	Rahim	3
5 7	Kelsey	Cameron	3
6 8	Hamilton	Emi	3
7 9	Caldwell	Veda	3
8 10	Ima	Winifred	3
9 11	Ruth	Leslie	4

## PARÂMETROS

Did the learner submit a screenshot of the STAFF\_LOCATIONS table in a Db2 On Cloud database similar to the following?

The screenshot shows a database interface for IBM Db2 on Cloud. At the top, it says "IBM Db2 on Cloud" and "Storage: 14%". Below that is a "Cookie Preferences" button and a "Discover" icon. The main area is titled "TABLES" and shows a table named "HTD13682.STAFF\_LOCATIONS". The table has four columns: "staff\_id", "first\_name", "last\_name", and "location". The data is as follows:

staff_id	first_name	last_name	location
3	Manny	Hermione	WH
4	Chelsea	Claudia	WH
5	Alic	Isadora	WH
6	Xena	Rahm	3
7	Kelsey	Cameron	3
8	Hamilton	Emi	2
9	Caldwell	Veda	3
10	Ima	Winifred	3
11	Ruth	Leslie	4
12	Britanni	Jorden	4
13	Berk	Derek	4
14	Damon	Sasha	4
15	Remedios	Mari	4

TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 ponto

Incorrect. The learner did not submit a response or did not show the STAFF\_LOCATIONS table in a Db2 on Cloud.

1 ponto

Partially correct. The learner submitted a screenshot that shows the STAFF\_LOCATIONS table in a Db2 on Cloud database, but the results do not show any data.

The schema name used is likely to differ from the schema named HTD13682 in the sample output.

2 pontos

Partially correct. The learner submitted a screenshot that shows the STAFF\_LOCATIONS table in a Db2 on Cloud database, but the results do not include the staff\_id, first\_name, last\_name, and location columns.

The schema name used is likely to differ from the schema named HTD13682 in the sample output.

3 pontos

Partially correct. The learner submitted a screenshot that shows the STAFF\_LOCATIONS table in a Db2 on Cloud database with 4 columns of data, but the first row does not contain information for Marny Hermione.

The schema name used is likely to differ from the schema named HTD13682 in the sample output.

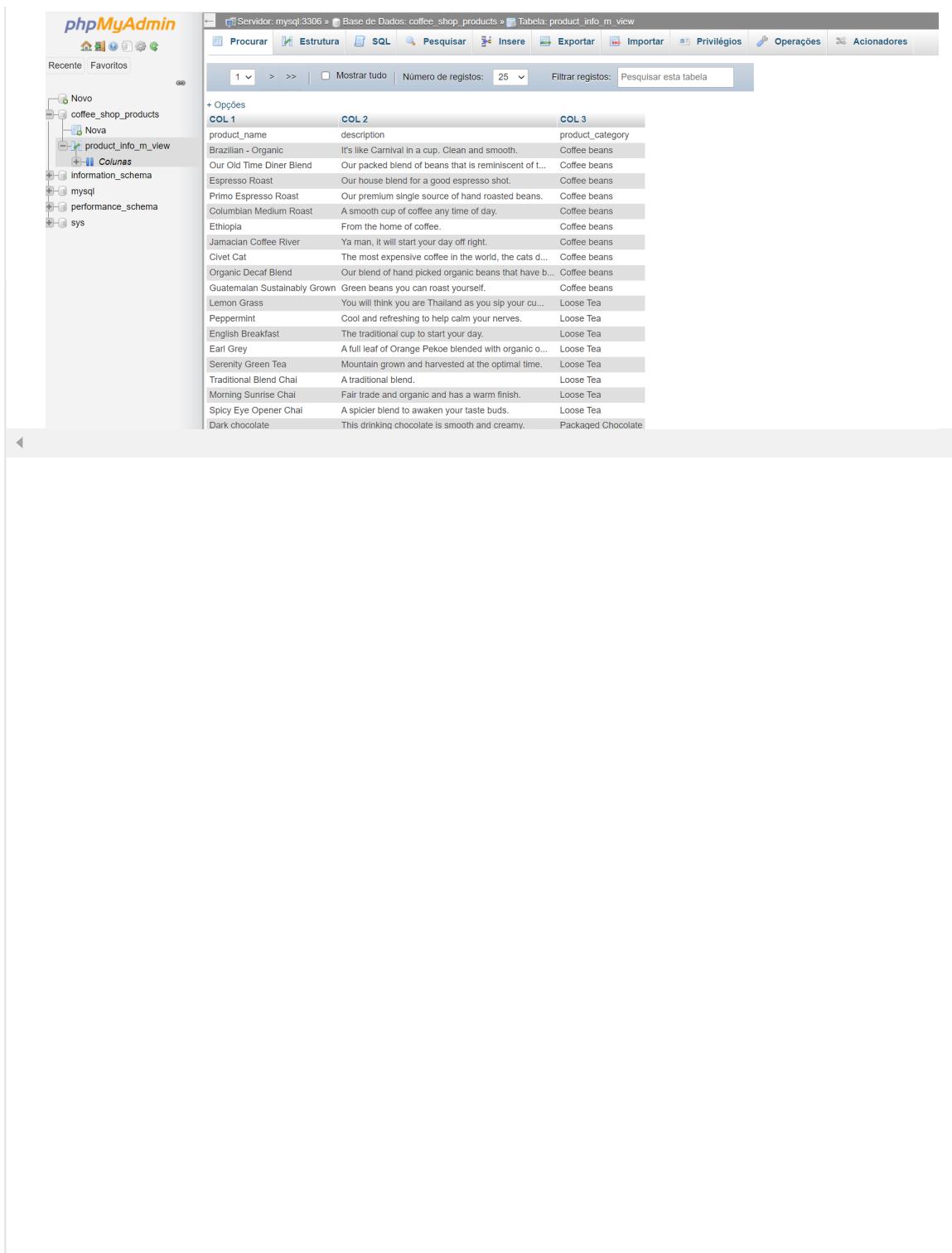
4 pontos

Correct. The learner submitted a screenshot that shows the STAFF\_LOCATIONS table in a Db2 on Cloud database with 4 columns of data and a first row containing information for Marny Hermione.

The schema name used is likely to differ from the schema named HTD13682 in the sample output.

## AVISO

**Task 10:** Submit the screenshot that you took as part of Task 10 and saved as Task10.png or Task10.jpg. (4 pts)



The screenshot shows the phpMyAdmin interface for a MySQL database named 'coffee\_shop\_products'. The left sidebar lists databases like Novo, coffee\_shop\_products, Nova, and information\_schema. The main area displays the 'product\_info\_m\_view' table with the following data:

COL 1	COL 2	COL 3
product_name	description	product_category
Brazilian - Organic	It's like Carnival in a cup. Clean and smooth.	Coffee beans
Our Old Time Diner Blend	Our packed blend of beans that is reminiscent of t...	Coffee beans
Espresso Roast	Our house blend for a good espresso shot.	Coffee beans
Primo Espresso Roast	Our premium single source of hand roasted beans.	Coffee beans
Columbian Medium Roast	A smooth cup of coffee any time of day.	Coffee beans
Ethiopia	From the home of coffee.	Coffee beans
Jamaican Coffee River	Ya man, it will start your day off right.	Coffee beans
Civet Cat	The most expensive coffee in the world, the cats d...	Coffee beans
Organic Decaf Blend	Our blend of hand picked organic beans that have b...	Coffee beans
Guatemalan Sustainably Grown	Green beans you can roast yourself.	Coffee beans
Lemon Grass	You will think you are Thailand as you sip your cu...	Loose Tea
Peppermint	Cool and refreshing to help calm your nerves.	Loose Tea
English Breakfast	The traditional cup to start your day.	Loose Tea
Earl Grey	A full leaf of Orange Pekoe blended with organic o...	Loose Tea
Serenity Green Tea	Mountain grown and harvested at the optimal time.	Loose Tea
Traditional Blend Chai	A traditional blend.	Loose Tea
Morning Sunrise Chai	Fair trade and organic and has a warm finish.	Loose Tea
Spicy Eye Opener Chai	A spicier blend to awaken your taste buds.	Loose Tea
Dark chocolate	This drinking chocolate is smooth and creamy.	Packaged Chocolate

## PARÂMETROS

Did the learner submit a screenshot of the product\_info\_m\_view table in a MySQL database similar to the following?

The screenshot shows the phpMyAdmin interface with the database 'coffee\_shop\_products' selected. The left sidebar shows tables like 'New', 'coffee\_shop\_products', 'product\_info\_m\_view', 'information\_schema', 'mysql', and 'performance\_schema'. The right pane displays the results of a query on the 'product\_info\_m\_view' table. The columns are 'product\_name', 'description', and 'product\_category'. The data includes various coffee and tea blends like 'Brazilian - Organic', 'Our Old Time Diner Blend', 'Expresso Rose', 'Prime Espresso Roast', 'Colombian Medium Roast', 'Ethiopia', 'Jamaican Coffee River', 'Clive Cat', 'Organic Decaf Blend', 'Guatemalan Sustainably Grown', 'Lemon Chai', 'Preppermint', 'English Breakfast', 'Earl Grey', 'Serenity Green Tea', 'Traditional Black Tea', 'Masala Spiced Chai', 'Spicy Eye Opener Chai', 'Dark chocolate', 'Sustainably Grown Organic', 'Chill Mayan', 'Our Old Time Diner Blend Sm', 'Our Old Time Diner Blend Rg', 'Our Old Time Diner Blend Lg', and 'Brazilian Sm'. The 'product\_category' column shows values like 'Coffee beans', 'Loose Tea', 'Packaged Chocolate', and 'Coffee'.

product_name	description	product_category
Brazilian - Organic	It's like Carnival in a cup. Clean and smooth	Coffee beans
Our Old Time Diner Blend	Our packed blend of beans that is reminiscent of t...	Coffee beans
Expresso Rose	Our house blend for a good espresso shot	Coffee beans
Prime Espresso Roast	Our premium single source of hand roasted beans	Coffee beans
Colombian Medium Roast	A smooth cup of coffee any time of day	Coffee beans
Ethiopia	From the heart of coffee	Coffee beans
Jamaican Coffee River	Ya man, it will start your day off right	Coffee beans
Clive Cat	The most expensive coffee in the world. The cats d...	Coffee beans
Organic Decaf Blend	Our blend of hand picked organic beans that have b...	Coffee beans
Guatemalan Sustainably Grown	Guatemalan beans you can feel good about!	Coffee beans
Lemon Chai	the ultimate Chai! This is a pick me up you can't...	Loose Tea
Preppermint	Cool and refreshing to take away the afternoon j...	Loose Tea
English Breakfast	The traditional cup to start your day	Loose Tea
Earl Grey	A full leaf of Orange Pekoe blended with organic s...	Loose Tea
Serenity Green Tea	Mountain grown and harvested at the optimal time	Loose Tea
Traditional Black Tea	A classic blend of tea leaves	Loose Tea
Masala Spiced Chai	Fair trade organic and has a warm finish	Loose Tea
Spicy Eye Opener Chai	A spicy blend to awaken your taste buds	Loose Tea
Dark chocolate	This drinking chocolate is smooth and creamy	Packaged Chocolate
Sustainably Grown Organic	Certified organic containing the highest quality i...	Packaged Chocolate
Chill Mayan	Fragrant yet spicy, this is the most flavorful...	Coffee
Our Old Time Diner Blend Sm	An honest cup of coffee	Coffee
Our Old Time Diner Blend Rg	An honest cup of coffee	Coffee
Our Old Time Diner Blend Lg	An honest cup of coffee	Coffee
Brazilian Sm	It's like Carnival in a cup. Clean and smooth.	Coffee

TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

0 ponto

Incorrect. The learner did not submit a response or did not show the product\_info\_m\_view table in a MySQL database.

1 ponto

Partially correct. The learner submitted a screenshot that shows the product\_info\_m\_view table in a MySQL database, but the results do not show any data.

2 pontos

Partially correct. The learner submitted a screenshot that shows the product\_info\_m\_view table in a MySQL database, but the results do not include the product\_name, description, and product\_category columns.

3 pontos

Partially correct. The learner submitted a screenshot that shows the product\_info\_m\_view table in a MySQL database with 3 columns of data, but the first row does not contain the product\_name Brazilian – Organic.



4 pontos

Correct. The learner submitted a screenshot that shows the product\_info\_m\_view table in a MySQL database with 3 columns of data and the product\_name Brazilian – Organic showing in the first row.