

3.1 Introduction to Relational Databases

☰ Time	2
📅 Due	@April 1, 2022
▼ Status	In progress
🕒 Completed date	@April 8, 2022 4:15 PM

- Drawing on what you've learned in previous Achievements, use the appropriate functions in Excel to count all the actors whose first name is "Ed." Write down the result in a text document.
 - 3
- Was it easier to use Excel or the SQL statement and database to count the number of "Eds"? Provide an explanation for your answer in the same text document.

Data Output	
	count bigint
1	3








- They were both equally easy, as I used =COUNTIF(B:B, "Ed") in Excel, which works exactly the same as the query in SQL.

Step 3

To answer the next set of questions, you'll be pasting the queries provided into the Query Editor in pgAdmin 4. Note down your answers in your running text document.

- Execute the following query and list the names of the columns in the payment table.

```
SELECT * FROM payment LIMIT 10;
```

	Data Output	Explain	Messages	Notifications		
	 payment_id [PK] integer 	customer_id smallint 	staff_id smallint 	rental_id integer 	amount numeric (5,2) 	payment_date timestamp without time zone 
1	17503	341	2	1520	7.99	2007-02-15 22:25:46.996577
2	17504	341	1	1778	1.99	2007-02-16 17:23:14.996577
3	17505	341	1	1849	7.99	2007-02-16 22:41:45.996577
4	17506	341	2	2829	2.99	2007-02-19 19:39:56.996577
5	17507	341	2	3130	7.99	2007-02-20 17:31:48.996577
6	17508	341	1	3382	5.99	2007-02-21 12:33:49.996577
7	17509	342	2	2190	5.99	2007-02-17 23:58:17.996577
8	17510	342	1	2914	5.99	2007-02-20 02:11:44.996577
9	17511	342	1	3081	2.99	2007-02-20 13:57:39.996577
10	17512	343	2	1547	4.99	2007-02-16 00:10:50.996577

- Under the “table_name” column, what are the names of the tables that are available in the Rockbuster database? (List all names.)
 - actor, store, address, category, city, country, customer, film_actor, film_category, inventory, language, rental, staff, payment, film

Query Editor

Query History

```
1 SELECT * FROM information_schema.tables
2 WHERE table_schema = 'public'
3 AND table_type = 'BASE TABLE'
```

Scratch Pad

Data Output

Explain

Messages

Notifications

	table_catalog name	table_schema name	table_name name	table_type character varying	self_referencing_column_name name	reference_generation character varying	user_defin name
1	Rockbuster	public	actor	BASE TABLE	[null]	[null]	[null]
2	Rockbuster	public	store	BASE TABLE	[null]	[null]	[null]
3	Rockbuster	public	address	BASE TABLE	[null]	[null]	[null]
4	Rockbuster	public	category	BASE TABLE	[null]	[null]	[null]
5	Rockbuster	public	city	BASE TABLE	[null]	[null]	[null]
6	Rockbuster	public	country	BASE TABLE	[null]	[null]	[null]
7	Rockbuster	public	customer	BASE TABLE	[null]	[null]	[null]
8	Rockbuster	public	film_actor	BASE TABLE	[null]	[null]	[null]
9	Rockbuster	public	film_category	BASE TABLE	[null]	[null]	[null]
10	Rockbuster	public	inventory	BASE TABLE	[null]	[null]	[null]
11	Rockbuster	public	language	BASE TABLE	[null]	[null]	[null]
12	Rockbuster	public	rental	BASE TABLE	[null]	[null]	[null]
13	Rockbuster	public	staff	BASE TABLE	[null]	[null]	[null]
14	Rockbuster	public	payment	BASE TABLE	[null]	[null]	[null]
15	Rockbuster	public	film	BASE TABLE	[null]	[null]	[null]

- Within the pgAdmin 4 console, can you think of another way to list all the table names in the database instead of the SQL statement above?
 - Database > Rockbuster > Schemas > Tables
- Analyze the rental duration distribution. How many days are most films rented for?
 - Most films are rented for 6 days

	Data Output	Explain	Messages	N
	rented for (in days) smallint	number of films bigint		
1	7	191		
2	5	191		
3	4	203		
4	3	203		
5	6	212		

Step 4

Think about who in Rockbuster Stealth might want to use an OLAP or OLTP system for their data needs; for example, the sales department, which is interested in sales trends, would likely use an OLAP system. Describe at least 2 situations for each type of system.

OLAP - 1 a data analyst determining the most profitable licenses, 2 or what days of the week are the most popular for rentals

OLTP - 1 a store cashier processes a transaction (renting a film), 2 or queries the rental status of films

Step 5






Rockbuster Stealth has received an invoice for the licenses for its new video collection.

Take a moment to familiarize yourself with data in the invoice, then note down the answers to the questions below.







- Does the invoice contain structured or unstructured data? Write an explanation for your answer.
 - Structured data as it can be arranged in a table.
- Organize and store the information on the invoice in a database.

Transaction_database






Aa Invoice number	# Item	# Quantity	Description	# Price
-------------------	--------	------------	-------------	---------

 Invoice number	 Item	 Quantity	 Description	 Price
<u>2019001</u>	1	1	New Video Collection Licensing	\$730.00

Supplier_database

 Supplier name	 Address	 City	 State	 Account name	 Account number
<u>Oaklanders</u>	4826 Norma Avenue	Anderson	TX	Miko Santo	4929331000575422

Customer_database

 First name	 Last name	 Address	 City	 State
<u>Timothy</u>	Walker	40 Sheila La	Sparks	NV