3.1 Intro to Relational Databases

1. **Count of first name “Ed” (excel function)**
   3

2. **Excel vs SQL – what was easier to use?**
   For me it is more intuitive to use the excel filter and count function than the SQL query but as soon as it gets more complex the SQL becomes simpler and faster to use.

3. **SQL Queries**

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

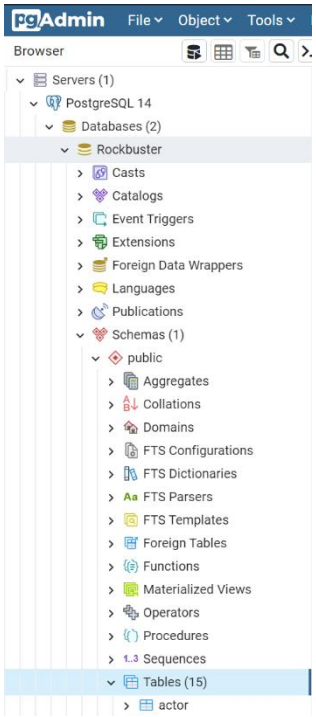
	payment_id [PK] integer	customer_id smallint	staff_id smallint	rental_id integer	amount numeric (5,2)	payment_date timestamp without time zone
1	17503	341	2	1520	7.99	2007-02-15 22:25:46.996577
2	17504	341	1	1778	1.99	2007-02-16 17:23:14.996577
3	17505	341	1	1849	7.99	2007-02-16 22:41:45.996577
4	17506	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

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

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

Names of tables available

Other way to see the table names:




```
SELECT rental_duration AS "rented for (in days)",
COUNT(*) AS "number of films"
    FROM film
    GROUP BY 1
    ORDER BY 2;
```

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

How many days are most films rented for?
6 Days

4. **OLAP vs OLTP – 2 situations for each type**

OLAP	OLTP
OLAP can be used for storing log data or all the videos because they'd only be used for READ operations (trends, most rented films, …).	OLTP could be useful to store customer data, e. g. subscription data or make a new booking.

5. **Invoice**
Structured or unstructured data?
Structured data – it can be organized and stored in a database.

Organize and store the information on the invoice in a database. Table contain columns with the appropriate labels, as well as the values from the invoice in each column. You're focusing, here, on a high-level structuring of your data.

Transaction

InvoiceID (number)	ItemID (number)	Quantity (number)	Description (text)	Price (number)
2019001	1	1	New Video Collection Licensing	$730

Supplier

Name (text)	Address (text)	City (text)	State (text)	Account name (text)	Account number (number)
Oaklanders	4826 Norma Avenue	Anderson	TX	Miko Santo	4929331000575422

Customer

FirstName	LastName	Address	City	State
Timothy	Walker	40 Sheila La	Sparks	NV