3.1: Intro to Relational Databases

* **Step 2**
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* Sql is epic i love it. If you know the structure of the data you can have results in seconds
* **Step 3**
* Execute the following query and list the names of the columns in the payment table.

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* Under the “table\_name” column, what are the names of the tables that are available in the Rockbuster database? (List all names.)

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* 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?
* In object explorer on left within the databases => Rockbuster => Schemas => Tables

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* Analyze the rental duration distribution. How many days are most films rented for?
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* **Step 4**

**OLAP (Online Analytical Processing)**  
OLAP systems are used for analyzing and summarizing large datasets for decision-making.

1. **Sales Trends Analysis (Sales Department):**
   * The sales department would use OLAP to analyze monthly or yearly rental trends to identify which genres or movies perform best.
   * This information helps forecast future demand and adjust inventory.
2. **Customer Retention Analysis (Marketing Team):**
   * The marketing team would use OLAP to analyze customer behavior, such as churn rates and average rental frequency.
   * This can help create targeted marketing campaigns to improve customer retention.

**OLTP (Online Transaction Processing)**  
OLTP systems are designed for real-time, day-to-day operations and transactional data.

1. **Movie Rentals Processing (Customer Service):**
   * The system handles customer transactions, such as recording when a movie is rented, returned, or reserved.
   * This ensures real-time updates to the database.
2. **Inventory Management (Operations Team):**
   * The operations team uses OLTP to update inventory levels whenever a rental transaction occurs.
   * It ensures that the availability of movies is accurate for customers.

* **Step 5**
* Does the invoice contain structured or unstructured data? Write an explanation for your answer.
* The data in this invoice is structured data because it is organized into clearly defined categories and fields, such as:
* Invoice Number
* Item Code
* Quantity
* Description
* Price
* Subtotal
* Payee Information (Name, Address, Account Number)
* Table

