

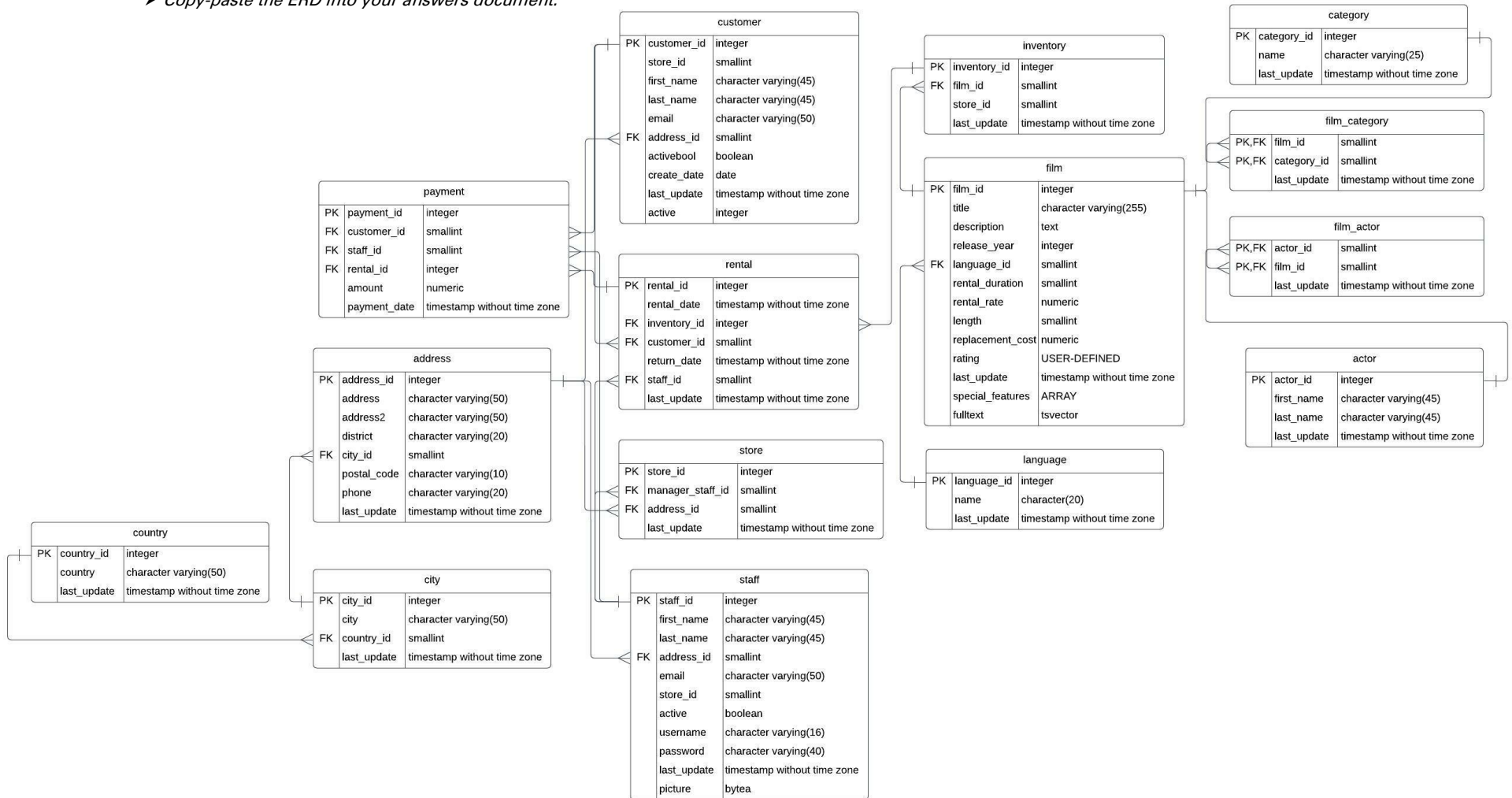
DIRECTIONS:

STEP 1: Create your Answers document:

Create a new text document and call it "Answers 3.2." You'll save a copy of your ERD, data dictionary, and written answers in this document.

STEP 2: Extract the ERD:

- Download and install [DbVisualizer](#) or [Lucidchart](#) (if you haven't already done so).
- Extract the ERD from the Rockbuster database and save it as an image (PNG or JPEG) using the instructions in the Exercise.
- Copy-paste the ERD into your answers document.



STEP 3: Create the first draft of a data dictionary:

- Take a moment to examine your ERD. Does the Rockbuster database have a snowflake schema or a star schema? Write a brief explanation for your answer.

The database has a snowflake schema. The fact table in the center also called the **rental** is surrounded by sub-dimension tables.

- List all the fact tables and all the dimension tables in the schema. For each table, list every column and its data type, and write a brief description of the column. To get an idea of what this should look like, check out these [example fact and dimension tables](#).
- If a column name doesn't tell you enough to write a description, you can also view the tables in pgAdmin 4. The SQL syntax for selecting a table is `SELECT * FROM table-name`. So `SELECT * FROM film` would return the film table, for example.

FACT TABLE

RENTAL		
COLUMN	DATA TYPE	DESCRIPTION
rental_id	SERIAL	ID for each rental transaction
rental_date	TIMESTAMP(6) WITHOUT TIME ZONE	Date of rental (YYY-MM-DD HH:MM:SS). The Time zone is not specified.
inventory_id	INTEGER	Store's numerical product code
customer_id	SMALLINT	Customer's ID information
return_date	TIMESTAMP(6) WITHOUT TIME ZONE	Returned date (YYY-MM-DD HH:MM:SS). The Time zone is not specified.
staff_id	SMALLINT	Employee's ID information
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

DIMENSION TABLES

STORE		
COLUMN	DATA TYPE	DESCRIPTION
store_id	SERIAL	Store/Branch ID information
manager_staff_id	SMALLINT	Store manager's ID information
address_id	SMALLINT	Store/Branch address
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

DIMENSION TABLES

STAFF		
COLUMN	DATA TYPE	DESCRIPTION
staff_id	SERIAL	Employee's ID information
first_name	VARCHAR(45)	Employee's first name
last_name	VARCHAR(45)	Employee's last name
address_id	SMALLINT	Employee's residential address
email	VARCHAR(50)	Employee's email address
store_id	SMALLINT	Employee's branch location
active	BOOLEAN	Employee's work status
username	VARCHAR(16)	Employee's account username
password	VARCHAR(40)	Employee's account password
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.
picture	BYTEA	Employee's photo

INVENTORY		
COLUMN	DATA TYPE	DESCRIPTION
inventory_id	SERIAL	Store's numerical product code
film_id	SMALLINT	Movie ID code
store_id	SMALLINT	Store/Branch ID information
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

FILM		
COLUMN	DATA TYPE	DESCRIPTION
film_id	SERIAL	Film/Movie ID code
title	VARCHAR(255)	Film/Movie Title
description	TEXT	Film/Movie description
release_year	INTEGER	Year released
language_id	SMALLINT	Film/Movie language ID information
rental_duration	SMALLINT	Duration of Rental
rental_rate	NUMERIC(4,2)	Rental cost
length	SMALLINT	Film/Movie duration
replacement_cost	NUMERIC(4,2)	Replacement fee
rating	USER-DEFINED	Viewer's ratings
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.
special_features	ARRAY	Additional film/movie features Blu-ray, DVD, Accessibility, etc.
fulltext	TSVECTOR	Search keywords

DIMENSION TABLES

LANGUAGE		
COLUMN	DATA TYPE	DESCRIPTION
language_id	SERIAL	Language ID information
name	CHARACTER(20)	Full name of language/dialect
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

CATEGORY		
COLUMN	DATA TYPE	DESCRIPTION
category_id	SERIAL	Category ID code
name	VARCHAR(25)	Full name of film/movie category
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

FILM CATEGORY		
COLUMN	DATA TYPE	DESCRIPTION
film_id	SERIAL,SMALLINT	Film/Movie ID code
category_id	SERIAL,INTEGER	Category ID code
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

FILM ACTOR		
COLUMN	DATA TYPE	DESCRIPTION
actor_id	SERIAL,SMALLINT	Film/Movie actor ID
film_id	SERIAL,SMALLINT	Film/Movie ID code
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

ACTOR		
COLUMN	DATA TYPE	DESCRIPTION
actor_id	SERIAL	Film/Movie actor ID
first_name	VARCHAR(45)	Actor's first name
last_name	VARCHAR(45)	Actor's last name
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

DIMENSION TABLES

CUSTOMER		
COLUMN	DATA TYPE	DESCRIPTION
customer_id	SERIAL	Customer's ID information
store_id	INTEGER	Store/Branch ID information
first_name	VARCHAR(45)	Client's first name
last_name	VARCHAR(45)	Client's last name
email	VARCHAR(50)	Client's email address
address_id	SMALLINT	Client's address
activebool	BOOLEAN	Client's membership status
create_date	DATE	Date of membership
email	VARCHAR(50)	Employee's email address
active	INTEGER	Number of days active

PAYMENT		
COLUMN	DATA TYPE	DESCRIPTION
payment_id	SERIAL	Payment account
customer_id	SMALLINT	Customer's ID information
staff_id	SMALLINT	Employee's ID information
rental_id	SERIAL	ID for each rental transaction
amount	NUMERIC(4,2)	Total rental fee/cost
payment_due	TIMESTAMP(6) WITHOUT TIME ZONE	Rental due date (YYY-MM-DD HH:MM:SS.SS). The Time zone is not specified.

ADDRESS		
COLUMN	DATA TYPE	DESCRIPTION
address_id	SERIAL	Store/Branch address ID information
address	VARCHAR(50)	Store/Branch address
address2	VARCHAR(50)	Store/Branch address2
district	VARCHAR(20)	Store/Branch district
city_id	SMALLINT	Store/Branch city ID information
postal_code	VARCHAR(10)	Store/Branch postal zip code
phone	VARCHAR(20)	Store/Branch phone information
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

DIMENSION TABLES

CITY		
COLUMN	DATA TYPE	DESCRIPTION
city_id	SERIAL	Store/Branch city ID information
city	VARCHAR(50)	Store/Branch city name
country_id	SMALLINT	Store/Branch country ID information
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

COUNTRY		
COLUMN	DATA TYPE	DESCRIPTION
country_id	SERIAL	Store/Branch country ID information
country	VARCHAR(50)	Store/Branch country
last_update	TIMESTAMP(6) WITHOUT TIME ZONE	Date of a recent modification (YYY-MM-DD HH:MM:SS). The Time zone is not specified.

STEP 4: Find information:

Now that your data dictionary and ERD are ready to use, your manager has given you a list of business questions to answer. Use your data dictionary to figure out which tables you'd need to answer the questions below:

- *Which actors brought Rockbuster the most revenue?*

We can address the query by using the following tables: actor, film_category, film, and rental.

- *What language are the majority of movies in the collection?*

We can address the query by using the following tables: language and film