Data Immersion Ach 03.03

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- Your line manager has told you they'd like to improve the movie search filters on the Rockbuster app and website. After thinking about the best way to do this, you decide to add more film categories so users can browse more genres they're interested in.

- **Directions**
  - Create a new text document and call it "Answers 3.3." You'll submit your queries, outputs, and written answers in this document at the end of the task.
- **Step 1:**
  - Your first task is to find out what film genres already exist in the category table:
  - Open pgAdmin 4, click the Rockbuster database, and open the Query Tool.
  - Write a SELECT command to find out what film genres exist in the category table.
  - Copy-paste the output into your answers document or write the answers out—it's up to you. Make sure to include the category ID for each genre.
    - SELECT category_id, name
    - FROM category

category_id	name
1	Action
2	Animation
3	Children
4	Classics
5	Comedy
6	Documentary
7	Drama
8	Family
9	Foreign
10	Games
11	Horror
12	Music
13	New
14	Sci-Fi
15	Sports
16	Travel

- **Step 2:**
  - You're ready to add some new genres! Write an INSERT statement to add the following genres to the category table: Thriller, Crime, Mystery, Romance, and War:
    - Copy-paste your INSERT commands into your answers document.
      - INSERT INTO category (name, last_update)
      - VALUES
      - ('Thriller', NOW()),
      - ('Crime', NOW()),
      - ('Mystery', NOW()),
      - ('Romance', NOW()),
      - ('War', NOW());
    - The CREATE statement below shows the constraints on the category table. Write a short paragraph explaining the various constraints that have been applied to the columns. What do these constraints do exactly? Why are they important?
  - CREATE TABLE category
  - (
    - category_id integer NOT NULL DEFAULT nextval('category_category_id_seq'::regclass),
    - name text COLLATE pg_catalog."default" NOT NULL,
    - last_update timestamp with time zone NOT NULL DEFAULT now(),
    - CONSTRAINT category_pkey PRIMARY KEY (category_id)
  -);
    - The `category` table employs several constraints to maintain data integrity and accuracy. The `NOT NULL` constraint on `category_id` and `name` ensures that these crucial fields are always populated, preventing incomplete or misleading records. The `DEFAULT now()` for `last_update` automatically records the timestamp of each entry, facilitating tracking of changes and data history. The `category_pkey` constraint designates `category_id` as the primary key, guaranteeing unique identification for each category and enabling efficient data retrieval and relationships with other tables. These constraints collectively enhance data quality, consistency, and the overall reliability of the `category` table.

- **Step 3:**
  - The genre for the movie *African Egg* needs to be updated to thriller. Work through the steps below to make this change:
    - Write the SELECT statement to find the film_id for the movie *African Egg*.
    - Once you have the film_ID and category_ID, write an UPDATE command to change the category in the film_category table (not the category table). Copy-paste this command into your answers document.

- **SELECT COMMANDS**
  - SELECT film_id, title
  - FROM film
  - WHERE title = 'African Egg'
    -

	film_id [PK] integer	title character varying (255)
1	5	African Egg

  - SELECT category_id
  - FROM film_category
  - WHERE film_id = 5
    -

	category_id smallint
1	8

  - SELECT category_id, name
  - FROM category
  - WHERE name = 'Thriller'
    -

	category_id [PK] integer	name character varying (25)
1	17	Thriller

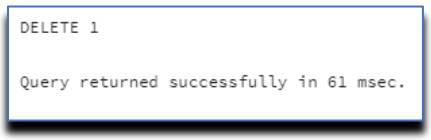
- **UPDATE COMMAND**
  - UPDATE film_category
  - SET category_id = 17
  - WHERE film_id = 5
    -

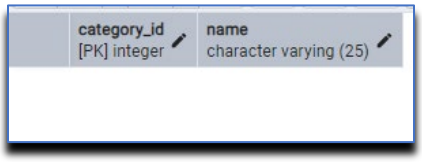
```
UPDATE 1

Query returned successfully in 66 msec.
```

- **VERIFICATION**
  - SELECT category_id
  - FROM film_category
  - WHERE film_id = 5
    -

	category_id smallint
1	17

- **Step 4:**
  - Since there aren't many movies in the mystery category, you and your manager decide to remove it from the category table. Write a DELETE command to do so and copy-paste it into your answers document.
  - **DELETE COMMAND**
    - DELETE FROM category
    - WHERE name = 'Mystery'
    - 

  - **VERIFICATION**
    - SELECT category_id, name
    - FROM category
    - WHERE name = 'Mystery'
    - 

- **Step 5:**
  - Based on what you've learned so far, think about what it would be like to complete steps 1 to 4 with Excel instead of SQL. Are there any pros and cons to using SQL? Write a paragraph explaining your answer.
    - While SQL may have a slightly higher learning curve than Excel it is far more efficient utilizing extensive scripts and better handles large datasets. SQL can also enforce constraints which can keep give confidence in data integrity. Ultimately SQL offers far more flexibility making it easier to utilize in so many different situations.
- **Step 6:**
  - Save your "Answers 3.3" document as a PDF and upload it here for your tutor to review.