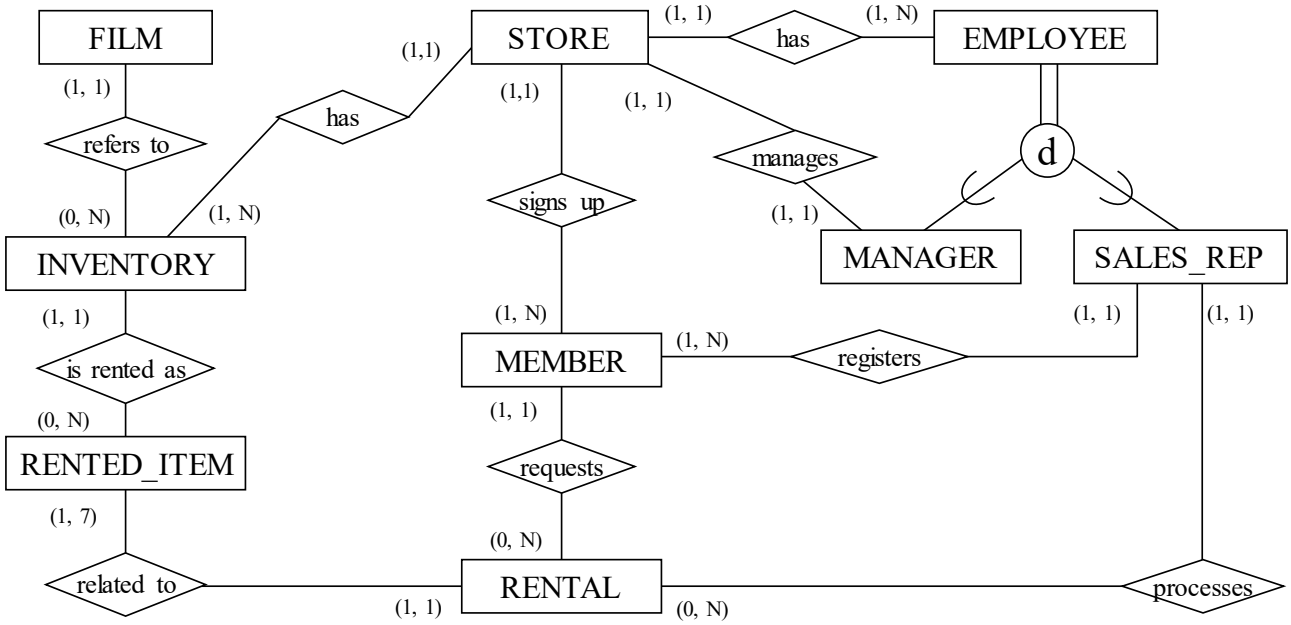
95 – 703: Database Management

SQL Assignment #1 (hardcopy due on March 27, in class before the lecture starts)

*Turn in a well formatted and readable printout of your SQL statements as they were executed in the SQL*Plus environment and the results of running each statement. Set the LINESIZE and PAGESIZE values optimally to ensure that there are no wrapping lines or repeated column headers in the results (refer to the "**Formatting SQL Output**" document available on the class website). Identify each answer clearly. Each question should be answered by a single SQL statement (not a sequence of statements) unless requested otherwise.*

In any case where the output includes ID and a name (or first and last name, and such like), concatenate these values into a single expression (single column in the results). Use only the SQL concepts covered in class so far (by March 20).

A film rental company keeps data about their store inventory of films, members of the store and the films that they rent over time as well as information about their employees, both the sales representatives who assist with the rentals and the managers of each of the stores.
ERD and schema for the database is provided below:



EMPLOYEE (Emp_ID, First_Name, Last_Name, Email, Position, Salary, Hire_Date, Store_Num@)
MANAGER (Emp_ID@, Begin_Date, Last_Training, Store_Num@)
SALES_REP (Emp_ID@, Last_Month_Sales, Bonus_Level)
STORE (Store_Num, Store_Name, Street, City, State, Zip)
FILM (Catalog_Num, Format, Title, Year, Number_Discs, Rating, Timing, Genre)
INVENTORY (Film_ID, Rental_Price, New, Date_In, Catalog_Num@, Store_Num@)
RENTED_ITEM (Rental_Num@, Film_ID@, Price, Due_Date, Return_Date, Late_Fee)
RENTAL (Rental_Num, Rent_Date, Credit_Card_Num, CC_Type, Member_ID@, Emp_ID@)
MEMBER (Member_ID, First_Name, Last_Name, Street, City, State, Zip, Phone, Date_of_Birth, Signup_Date, Rep_ID@, Store_Num@)

Your task is to create few data integrity constraints, to update some values in the database (Part I), and to run few queries, as defined below (Part II). First, execute the script provided on the class website to create the database needed for this assignment. The script is titled '**SQL1_script.txt**'.

Part I. Database Maintenance

1. Credit card type in table "Rental" can take values that are either "credit" or "debit". Create appropriate check constraint(s) to validate that those are the only values acceptable for that attribute.

2. All films that we already have in the catalog (our "Film" table) that are produced/released before 1970 are to be reclassified as 'Classic'. However, we do not want to lose the current information in the column. Therefore, concatenate to the front of the existing value in the Genre column 'Classic' for those films that are released before 1970 (but avoid repetitions). After the update is performed, list the ID, title, and genre of all 'classic" films we have.

3. Some of the ratings are Null. All the null values are to be changed into NR (i.e., Not Rated).

4. There is a demand for TV series (i.e., films in genre like *TV Action and Adventure* and *TV Drama*). Search the Internet (e.g., Amazon.com) to find few recently released TV series in one of those genres and add 4 more rows to the Film table in those genres. All values in each insert are to be provided.

Part II. Queries (based on the results of Part I)

1. List the ID & title of any *Science Fiction* film in the inventory that was released in 2015 or later. Also include in the result the ID and name of the store that has the film and the date when the film was included in the store's inventory. Order the results by store, date, and the film ID.

2. List all films that were added to the stores' inventories in the past 40 days. For each addition provide catalog number, film title, film rating, the film ID, date when the film was added, and location of the new additions (store number and name where the newly arrived films are located).

3. Provide IDs & names of customers who rented films (or TV shows) in only Sci-Fi category.

4. Provide IDs & names of employees who processed rentals in the first two weeks of March 2019 for customers who live in Pittsburgh, PA. Also provide ID and name of the customer/member and store were the customer signed up to be a member. Sort the results by ID of the employee and then by ID of the member. Do not use any set operation.

5. Repeat question 4 but this time do use a set operation.

6. List names of films rented by members who do not live in Pittsburgh, PA. Provide member id and name, title of the film, and the rental dates (date when a film was rented and date when it was returned). Sort the result by member's last name.