1. Queries in Calculus, SQL, and Algebra

Suppose there is a database with the Signature $\Sigma = \{\texttt{Movie}, \texttt{Schedule}\}$, which contains the relations

   Movie(title, director, actor)   Schedule(theater, mtitle)

Both attributes, title and mtitle, refer to the title of a movie.

Consider the following queries:

1. Which theaters show some movies directed by Tarantino?

2. Which theaters do not show any movies directed by Tarantino?

3. Which theaters show only movies directed by Tarantino?

4. Which theaters show all movies directed by Tarantino?

Express each of the queries above in the three query languages of

- Relational Calculus

- SQL

- Relational Algebra.