Assignment 1 - Part 2

February 17, 2016

Some math symbols you may need. Note all math symbols must be sandwiched between dollar signs:

$\sigma_{constraint}$, $\Pi_{col_1,col_2,...}$, TableA $\bowtie_{constraint}$ TableB, $\cup$, $\times$.

1. All those actresses who are female.
   n$\sigma_{gender=F}$(actors)

2. All those roles played by male actors.
   Π_{role} ($\sigma_{gender=M}$(actors $\bowtie_{actors.id=roles.actors\_id}$ roles))

3. Movie names that had a rank at least 9 and were produced in the 80s (1980-1989).
   Π_{name} ($\sigma_{rank<=9,year>=1980\ and<=1989}$ (movies))

4. Directors and their movie titles.
   $\Pi_{first\_name,last\_name,name}$(directors $\bowtie$ movies_directors $\bowtie$ movies)

5. Directors and their movie titles for movies with a rank of exactly 9.
   $\Pi_{first\_name,last\_name,name}$($\sigma_{rank=9}$ (directors $\bowtie$ movies_directors $\bowtie$ movies))

6. Actor/Actress names who play themselves (ie, role is Herself or Himself).
   $\Pi_{first\_name,last\_name}$($\sigma_{role='Herself'or\ 'Himself'}$ (actors $\bowtie$ roles))

7. Directors first and last names who act in their own movie.
   $\sigma_{first\_name,last\_name}$(directors $\bowtie_{directors.id=movies\_directors.director\_id}$ movies_director $\bowtie_{movie\_directors.movid\_id=roles.movie\_id}$ roles)

8. The actor/actress first and last name, movie title and role for all movies in 1950.
   $\Pi_{first\_name,last\_name,name,role}$($\sigma_{year=1950}$ (actors $\bowtie_{actors.id=roles.actor\_id}$ roles $\bowtie_{roles.movie\_id=movies.id}$ movies))