

1-

```
A = σgender = 'F' (actors)
pi first_name, last_name A
```

2-

```
A = σyear > 1999 (movies)
pi name A
```

3-

```
A = π name, director_id σ id = movie_id (movies ⋈ movies_directors)
pi name, first_name, last_name σ id = director_id (A ⋈ directors)
```

4-

```
A = π name, rank, actor_id, role σ id = movie_id (movies ⋈ roles)
B = π first_name, last_name, rank, role σ actor_id = id (A ⋈ actors)
pi first_name, last_name, role, rank σ rank ≥ 6 (B)
```

5-

```
A = γ director_id; count(movie_id) -> soma (movies_directors)
pi first_name, last_name, soma σ id=director_id (A ⋈ directors)
```

6-

```
γ genre; count(movie_id)-> numero_filmes (movies_genres)
```

7-

```
A = π name, rank, genre σ id=movie_id ( movies ⋈ movies_genres )
B = γ genre; avg(rank) -> average (A)
C = γ genre; max(rank) -> max (B)
```

D = γ genre; min(rank) \rightarrow min (C)

π genre, average, min, max (B \bowtie C \bowtie D)