PS 1: Problem 16
Relational-algebra queries

problem 16.1

Oscar10s <-- SELECT{year >=2010 AND year <=2019}(Oscar)
OscarBP <-- PROJECT{movie_id}(SELECT{type='BEST-PICTURE'}(Oscar10s))
PROJECT({name, year}(CONDITIONAL_JOIN{id = movie_id}(Movie, OscarBP))

problem 16.2

# left outer join from Moview to Oscar
Table <-- LEFT_OUTER_JOIN{id=movie_id}(Movie, Oscar)

# select the movie with top 25 earnings_rank
Top25 <-- SELECT{earnings_rank <= 25}(Table)

do the projection
PROJECT{earnings_rank, name, type}(Top25)

problem 16.3

# select all the actors who won the 'supporting' award
Supportingor <-- SELECT{type ='BEST-SUPPORTING-ACTOR' UNION type =
'BEST-SUPPORTING-ACTRESS'}(Oscar)

# select all the actors who did not win the 'supporting' award
NotSupporting <-- SELECT{type ='BEST-ACTOR' UNION type = 'BEST-ACTRESS'}(Oscar)

do the set difference
PROJECT{person_id}(Supporting) - PROJECT{person_id}(NotSupporting)