CSCI 4380 Spring 2018 Quiz 4 [Time: 25 minutes]

Name 1:	RCS ID1:
Name 2:	RCS ID2:
Name 3:	RCS ID3:

Rules.

- Open book and notes. Do not use any electronic tools including your computer.
- You can talk to anyone in class. If you know the answer, help someone else in class.
- Each quiz must be by at least two and at most three people. Most quizzes should be by three people, so find someone to talk to. Put your name on one quiz only.

Question (25 points). The following is a database of heroes in movies and TV shows. For shows that are still ongoing, the endyear is null. All other attributes must have a value. Universe for shows, movies and heroes is either Marvel or DC. You can shorten `heroesintvshow` to `ht` and `heroesinmovie` to `hm` in your queries.

```
TVShows(id, name, tvchannel, startyear, endyear, universe)
Movies(id, name, year, gross, universe)
Heroes(id, name, realname, universe)
Actors(id, name, dob, mainheroname)
HeroesInTVShow(id, hero_id, show_id, actor_id)
HeroesInMovie(id, hero_id, show_id, actor_id)
```

Write the following data management statements in SQL.

Statement 1. You are given a new relation: `ActorRoles(actor_id,hero_id)`

Insert tuples into this relation for each hero the actor played in a TV show or movie.

Answer here.

```
insert into actorroles
select actor_id, hero_id from HeroesInTVShow
union select actor_id, hero_id from HeroesInMovie;
```

Statement 2. Delete Heroes tuples for Heroes who have never appeared in a movie or a TV Show. You can use the `ActorRoles` relation from above to simplify this statement.

Answer here.

```
delete from heroes
where id not in (select hero_id from heroesintvshow
                 union select hero_id from heresinmovie);

delete from heroes where id not in (select hero_id from actorroles);
```

Statement 3. Update the Actors relation such that if there is a single hero this actor ever played (TV or Movie), then the `Actors.mainheroname` should be the name of this hero. Otherwise, this attribute should remain unchanged. You can use the `ActorRoles` relation from above to simplify this statement.

Answer here.

```
update actors
set mainheroname = (select h.name from heroes h, actorroles a
                    where a.actor_id=actors.id and h.id = a.hero_id)
where 1 = (select count(*) from actorroles a where a.actor_id = actors.id);
```