CS 61A Structure and Interpretation of Computer Programs
Summer 2017

INSTRUCTIONS

- You have 10 minutes to complete this quiz.

- The exam is closed book, closed notes, closed computer, closed calculator.

- The final score for this quiz will be assigned based on **effort** rather than correctness.

- Mark your answers **on the exam itself**. We will *not* grade answers written on scratch paper.

- For multiple choice questions,
    - ☐ means mark **all options** that apply
    - ◯ means mark a **single choice**

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Name of the person to your left	
Name of the person to your right	
All the work on this exam is my own. **(please sign)**	

1. (5 points) Sequels

Assume that the following table of movie `ratings` has been created.

```
create table ratings as
  select "The Matrix" as title,      1999 as year, 9 as rating union
  select "The Matrix Reloaded",      2003,         7            union
  select "The Matrix Revolutions",   2003,         5            union
  select "Toy Story",                1994,         8            union
  select "Toy Story 2",              1999,         8            union
  select "Toy Story 3",              2010,         9            union
  select "Terminator",               1984,         8            union
  select "Judgment Day",             1991,         9            union
  select "Rise of the Machines",     2003,         5;
```

Express the following queries in SQL using only features we've covered in this course.

(a) (1 pt) Select the titles of all movies that have a rating greater than 7 in alphabetical order.

```
select _____;
```

(b) (2 pt) Select the titles of all movie *triplets* for which there exist 3 movies that have the same rating. Include the titles of all three movies in the result. The results should appear in alphabetical order.

```
Judgement Day|The Matrix|Toy Story 3
Terminator|Toy Story|Toy Story 2
```

```
select _____

  from _____

 where _____

       _____;
```

(c) (2 pt) For each group of movies containing at least 2 movies with the same rating, select the rating and *year difference (from the group average)* of the first movie released to achieve that rating. For example, `The Matrix Reloaded` was the only movie to receive a rating of 7 so it does not have a group. `Judgement Day` was released in 1991, 9 years before the average year (2000) for movies rated 9.

```
5|0
8|-8.333333333333258
9|-9
```

```
with average as (select _____

                   from _____ group by _____ having _____)

select _____

  from _____

 where _____

 group by _____;
```