Lab3 - Part 1 Instructions

CompSci 516 Staff

1 Lab3 Logistics

We will have two sections for Lab 3, Lab3-day1 on Tuesday (Nov 11) and Lab3-day2 on Thursday (Nov 13) and 5 questions in total, 2 for day 1 and 3 for day 2.

Each question if finished in class strictly by 2:45pm successfully on Gradescope will get +5 bonus points.

- Lab3-day1 due on Thursday 11/14 1:25pm

- Lab3-day2 due on Tuesday 11/19 11:59pm

2 Sample Queries

Enter mongo shell and select movielens:

```
$ mongo
> use movielens
```

2.1 Sample query 1

Find the number of action movies that users in Duke love. Same movie can be repeated many times. The zip code of Duke is 27708. If the rating of a movie is greater or equal to 4, we say the user loves the movie. By action movies we mean any movie with the "Action" field set to true.

```
> db.movies.find({zipcode: 27708, rating: {$gte: 4}, "genre.Action": true}).count()
```

2.2 Sample query 2

Find all user_ids over the age of 68 (age>68) who gave a rating that is 3.0 or above to a movie that was released in 1997. Return both the user_id and the movie_title. Sort your result by user_id(ascending) and movie_title(descending). Only display the first 20 rows.

```
> db.movies.aggregate([{$match: {age: {$gt: 68}, rating: {$gte: 3},
release_date: /.*1997.*/ }}, {$group: {_id: {user_id: "$user_id",
movie_title: "$movie_title"}}}, {$project: {_id:0, user_id: "$_id.user_id",
movie_title:"$_id.movie_title"}}, {$sort: {user_id:1, movie_title:-1}},
{$limit:20}])
```

3 Lab Questions

3.1 Question a

Find the number of Animation movies that were released in 1995. No need to remove duplicates. (Output headers: None)

3.2 Question b

Find distinct user_ids under age 15 who have watched at least 2 different horror movies (i.e., genre is Horror), ordered by user_id (ascending). (Output headers: user_id)

4 Submission Guide

For each question, say (a), write your MongoDB query in a file named a.js, (replace "a" with "b" as appropriate). Then submit both of your query files together on Gradescope. For part (b), please make sure that your answer appears as an array by adding .toArray() to the end of your query. Otherwise the autograder may not able to compare your output.

5 Additional Resources

- Complete MongoDB installation instructions:
  https://docs.mongodb.com/manual/tutorial/install-mongodb-on-ubuntu/

- MongoDB official document: https://docs.mongodb.com/manual/

- SQL to MongoDB mapping chart:
  https://docs.mongodb.com/manual/reference/sql-comparison/

- SQL to aggregation mapping chart:
  https://docs.mongodb.com/manual/reference/sql-aggregation-comparison/