

Mongo query practice

For this extra credit assignment, form up in **teams of 2 or 3**. One of you should have your laptop out, and the others should be looking attentively over the typist's shoulder.

Part 1: queries (up to 5XP)

Use the **coffee** database on the cpssc server's Mongo instance for this assignment. Answer the following questions with both a query and the actual answer:

1. How many coffee shops are in this little database?
2. What are all the cities with coffee shops?

*Hint: remember the **distinct()** function.*

3. What cities have at least some coffee shops with excellent wifi?
4. What are the names of all the shops in either Boston or Seattle that have a rating higher than 4.5? (List each shop name only once.)
5. What's the average rating of all shops?

*Hint: you can use the **\$group** stage in an aggregate pipeline even if you're not grouping, by making the **_id** field be **null** instead of the name of a field.*

6. What's the average rating for shops that serve Cold Brew?

*Hint: remember the **\$unwind** aggregation stage, to generate copies of a document for each value in one of its embedded lists.*

7. How many coffee shops are there in each city? (Order these results so that the city with the most shops is at the top of the list, and the city with the fewest shops is at the bottom.)

Part 2: updates (up to 5XP)

Create your own copy of our Star Wars database on the `cpssc` server. Call your database the concatenation of your team's userids, separated by underscores, and followed by `_sw`. (Example: you might call your database `tswift3_lgaga_bknowles_sw`).

To create a database with that name, run these commands on `cpssc`:

```
$ wget http://stephendavies.org/cpsc350/starwars.json
$ mongoimport --db tswift3_lgaga_bknowles_sw --collection c --file starwars.json
```

(Obviously substitute your team's Star Wars database name for the string `tswift3_lgaga_bknowles_sw`.)

Then, make the following *changes* directly in your database:

1. Mark Artoo, Threepio, BB-8, and Dio as droids by giving them a `droid` key with value `true`.
2. Give **Chewie** a race of **Wookiee** (spelled correctly), and **Jabba** a race of **Hutt**. Give all other non-droids a race of **human**.
3. Anakin has been going through some life changes recently, possibly because he has gone through puberty and is not 20 years old. Change his name to **Darth Vader**, and turn him from a **Jedi** to a **Sith**. Oh, and Obi-wan is no longer his mentor: **Darth Sidious** is.
4. Change the lightsaber color of anyone with "Darth" in their name to be **red**.
5. Delete Finn's `stormtrooper number` since it entails painful memories for him.
6. Add a relation in Luke's document: **Han** is his **friend**.
7. Delete **Darth Maul** entirely. He died.
8. Promote **Rey** from **Jedi** to **Jedi Master** since she's so freakin' awesome and there's hardly enough other Jedi still alive for anybody to care anyway.
9. Speaking of **Rey**, the database currently shows **Rey** being a love interest of **Finn**, but not the other way around. Make this infatuation reciprocal.
10. Add **Luke** to episode **IX**, since happily he made an appearance there.
11. Mark everyone in at least four episodes as a "**Saga**" character. Mark everyone else as a "**Trilogy**" character.

Turning it in

To redeem your up-to-10XP-for-each-team-member, send me an email with subject line "**CPSC/DATA 350 Stephen flu turnin**" that has two things:

1. A file in any format, as an attachment, that has all of your queries, and the answers, for part 1.
2. The name of your team's `cpssc` Star Wars database, so I can go check your work for part 2.

Be sure to **Cc: your teammates** when you send this email to me. It's due by midnight tomorrow (Tuesday, April 15th).