# MongoDB Lab Assignments -Day 1

**MongoDB Exercise in mongo shell**

Connect to a running mongo instance, use a database named **mongo\_practice**. Document all your queries in a javascript file to use as a reference.

# Insert Documents

Insert the following documents into a **movies** collection.

title : Fight Club

writer : Chuck Palahniuko year : 1999

actors : [ Brad Pitt

Edward Norton

]

title : Pulp Fiction

writer : Quentin Tarantino year : 1994

actors : [

John Travolta Uma Thurman

]

title : Inglorious Basterds writer : Quentin Tarantino year : 2009

Actors : [ Brad Pitt

Diane Kruger Eli Roth

]

title : The Hobbit: An Unexpected Journey writer : J.R.R. Tolkein

year : 2012

franchise : The Hobbit

title : The Hobbit: The Desolation of Smaug writer : J.R.R. Tolkein

year : 2013

franchise : The Hobbit

title : The Hobbit: The Battle of the Five Armies writer : J.R.R. Tolkein

year : 2012

franchise : The Hobbit

synopsis : Bilbo and Company are forced to engage in a war against an array of combatants and keep the Lonely Mountain from falling into the hands of a rising darkness.

title : Pee Wee Herman's Big Adventure title : Avatar

Reference https[://ww](http://www.tutorialspoint.com/mongodb/mongodb_insert_document.htm)w.t[utorialspoint.com/mongodb/mongodb\_insert\_document.htm](http://www.tutorialspoint.com/mongodb/mongodb_insert_document.htm)

# Query / Find Documents

# 1. get all documents.

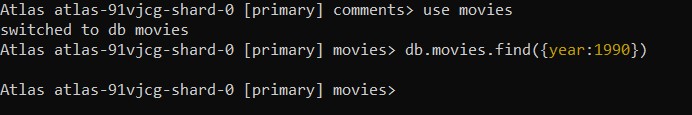
# C:\Users\deepi\OneDrive\Pictures\Screenshots\Screenshot (342).png

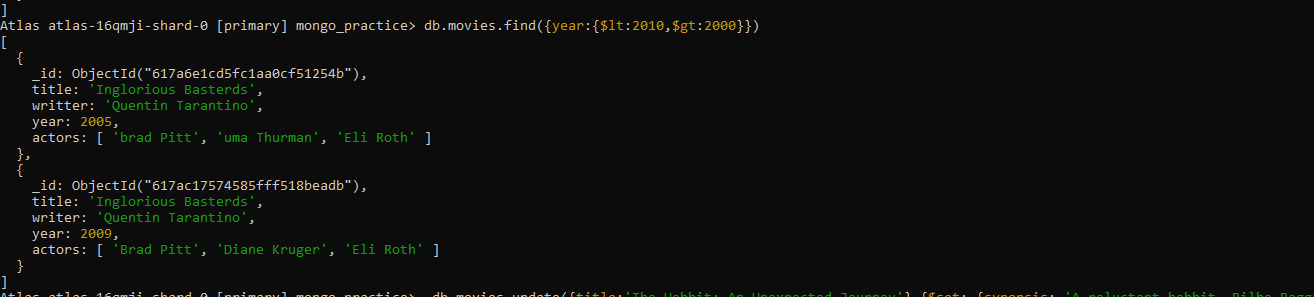
# 2. get documents with writer set to “Quentin Tarantino.

# C:\Users\deepi\OneDrive\Pictures\Screenshots\Screenshot (345).png3. get all documents where actors include "Brad Pitt".C:\Users\deepi\OneDrive\Pictures\Screenshots\Screenshot (349).png4.get all documents with franchise set to "The Hobbit"

# C:\Users\deepi\OneDrive\Pictures\Screenshots\Screenshot (351).png

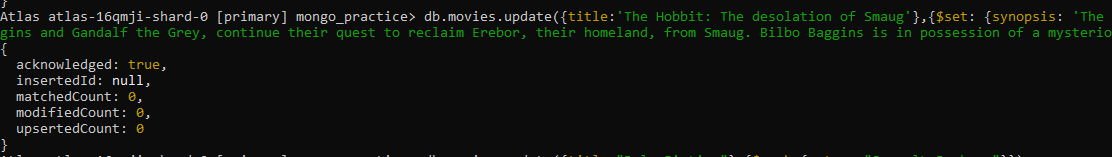
5.get all movies released in the 90s.

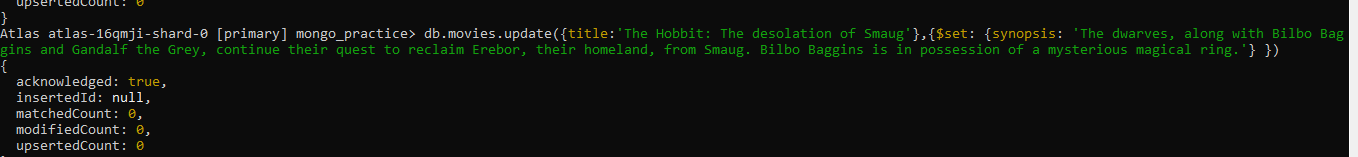


6. get all movies released before the year 2000 or after 2010. 

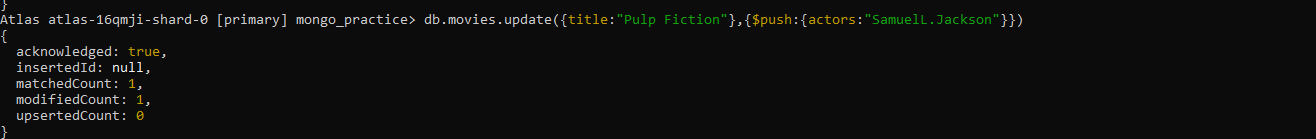
Reference: https[://ww](http://www.tutorialspoint.com/mongodb/mongodb_query_document.htm)w.t[utorialspoint.com/mongodb/mongodb\_query\_document.htm](http://www.tutorialspoint.com/mongodb/mongodb_query_document.htm)

# Update Documents

1. add a synopsis to "The Hobbit: An Unexpected Journey" : "A reluctant hobbit, Bilbo Baggins, sets out to the Lonely Mountain with a spirited group of dwarves to reclaim their mountain home - and the gold within it - from the dragon Smaug." 
2. add a synopsis to "The Hobbit: The Desolation of Smaug" : "The dwarves, along with Bilbo Baggins and Gandalf the Grey, continue their quest to reclaim Erebor, their homeland, from Smaug. Bilbo Baggins is in possession of a mysterious and magical ring."



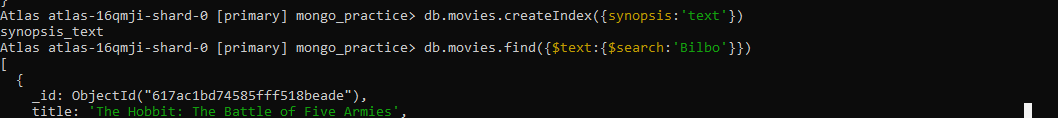
1. add an actor named "Samuel L. Jackson" to the movie "Pulp Fiction"



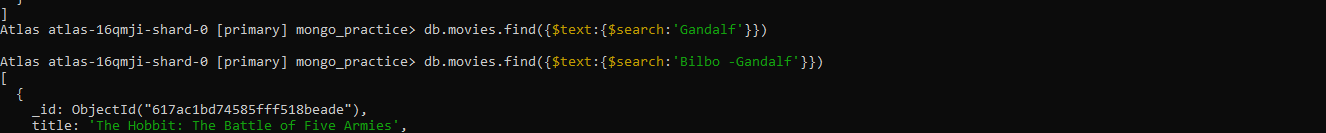
Reference: https[://ww](http://www.tutorialspoint.com/mongodb/mongodb_update_document.htm)w.t[utorialspoint.com/mongodb/mongodb\_update\_document.htm](http://www.tutorialspoint.com/mongodb/mongodb_update_document.htm)

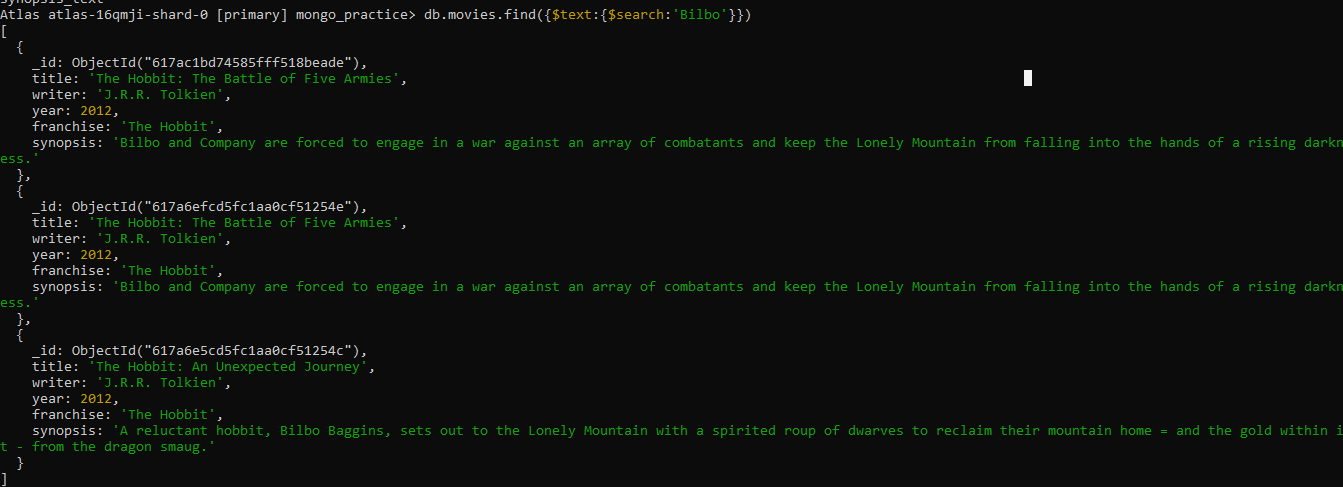
# Text Search

1. find all movies that have a synopsis that contains the word "Bilbo"

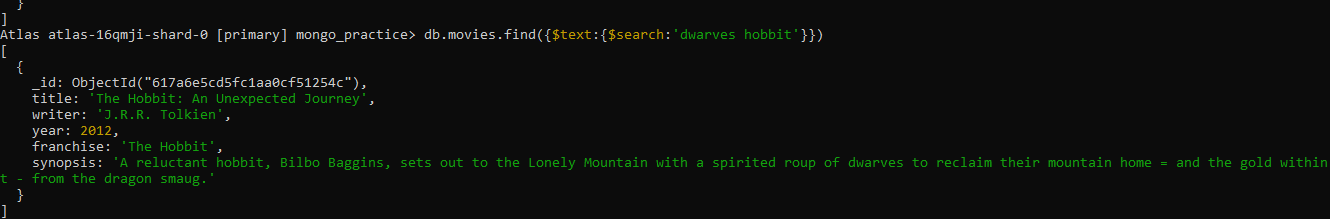


1. find all movies that have a synopsis that contains the word "Gandalf".

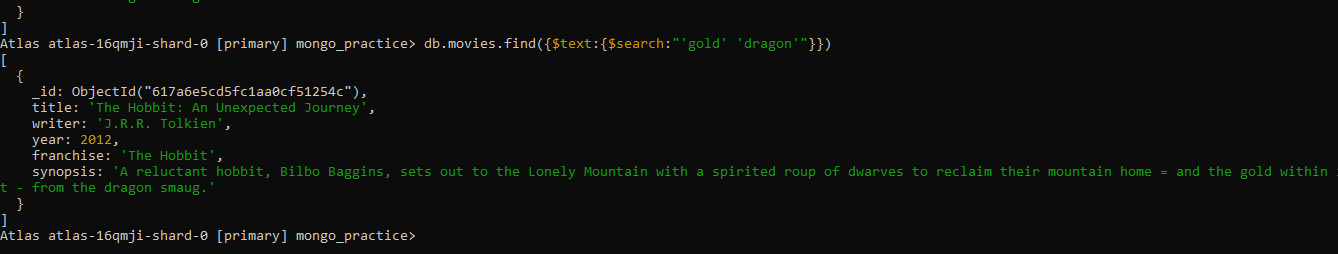
3. Find all movies that have a synopsis that contains the word "Bilbo" and not the word "Gandalf".



4. Find all movies that have a synopsis that contains the word "dwarves" or "hobbit".



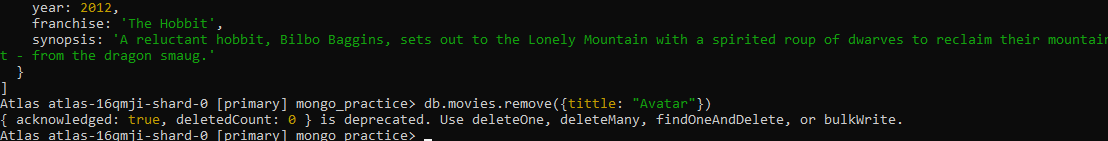
5. Find all movies that have a synopsis that contains the word "gold" and "dragon.



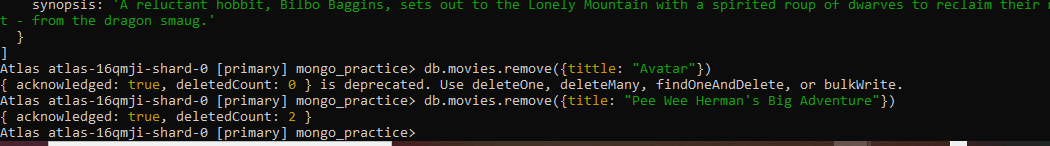
Reference: https[://w](http://www.tutorialspoint.com/mongodb/mongodb_text_search.htm)ww[.t](http://www.tutorialspoint.com/mongodb/mongodb_text_search.htm)u[torialspoint.com/mongodb/mongodb\_text\_search.htm](http://www.tutorialspoint.com/mongodb/mongodb_text_search.htm)

# Delete Documents

1. delete the movie "Pee Wee Herman's Big Adventure"



2.delete the movie "Avatar".

 Reference: https[://ww](http://www.tutorialspoint.com/mongodb/mongodb_delete_document.htm)w.t[utorialspoint.com/mongodb/mongodb\_delete\_document.htm](http://www.tutorialspoint.com/mongodb/mongodb_delete_document.htm)

# Relationships

username : GoodGuyGreg first\_name : "Good Guy" last-name : "Greg" username : ScumbagSteve full\_name :

first : "Scumbag" last : "Steve

Insert the following documents into a **users** collection

username: GoodGuyGreg first\_name : "Good Guy" last name : "Greg" username : ScumbagSteve full\_name :

first : "Scumbag" last : "Steve"

Insert the following documents into a **posts** collection

Username: GoodGuyGreg title : Passes out at party

body: Wakes up early and cleans house

username: GoodGuyGreg title : Steals your identity

body : Raises your credit score

username : GoodGuyGreg

title : Reports a bug in your code body : Sends you a Pull Request

username : ScumbagSteve title : Borrows something body : Sells it

username : ScumbagSteve title : Borrows everything body : The end

username: ScumbagSteve

title : Forks your repo on github body : Sets to private

Insert the following documents into a **comments** collection

username : GoodGuyGreg

comment : Hope you got a good deal! post : [post\_obj\_id]

where [post\_obj\_id] is the ObjectId of the posts document: "Borrows something"

username : GoodGuyGreg comment : What's mine is yours! post : [post\_obj\_id]

username : GoodGuyGreg

comment : Don't violate the licensing agreement! post : [post\_obj\_id]

where [post\_obj\_id] is the ObjectId of the posts document: "Forks your repo on github

# Querying related collections

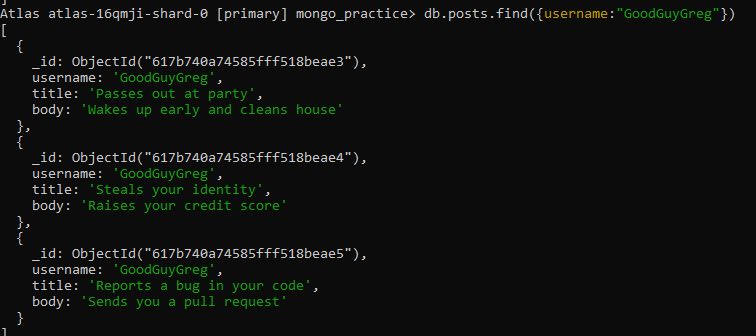
# 1.find all users

# C:\Users\deepi\OneDrive\Pictures\Screenshots\Screenshot (397).png

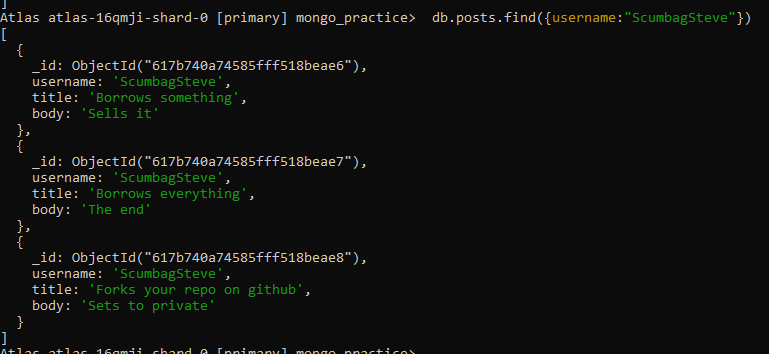
# find the posts.

# C:\Users\deepi\OneDrive\Pictures\Screenshots\Screenshot (399).png

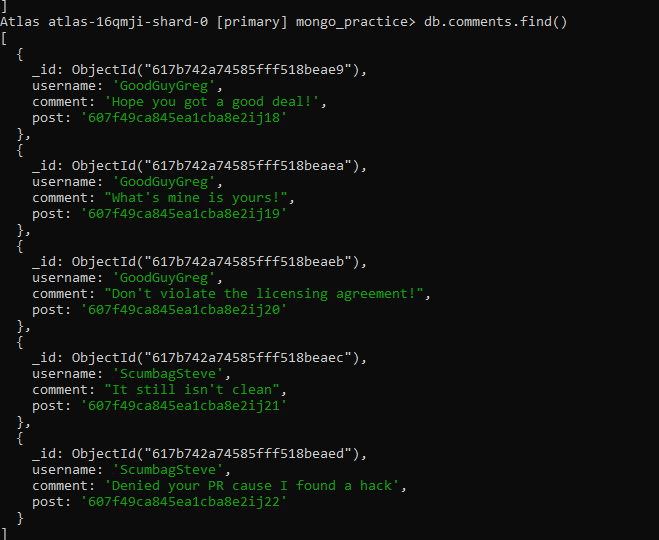
3. find all the posts that was authorized by “goodguy grey



4.find all posts that was authored by “scumbageSteve.



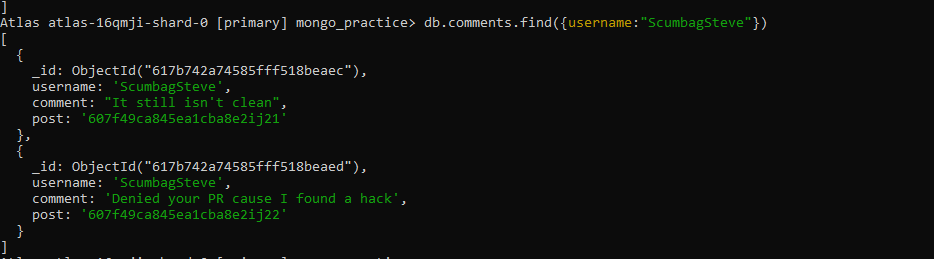
5. Find the comments



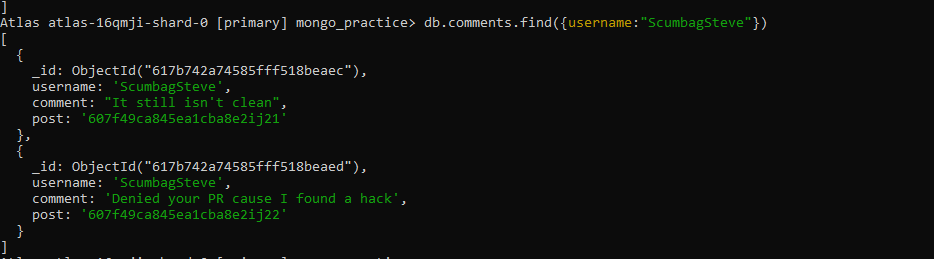
6.find the comments that was authorized by “GoodGuy Grey”



7.find all comments that authored by “scumbagsteve”



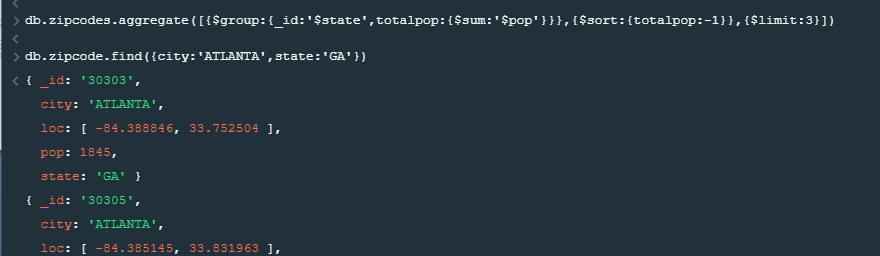
8. find the comments belonging to the post “report a bug in your code.”



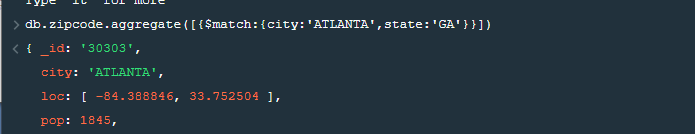
Section-2

**Atlanta Population**

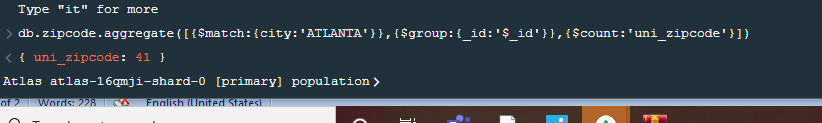
1. use db.zipcodes.find() to filter results to only the results where city is ATLANTA and state is GA.



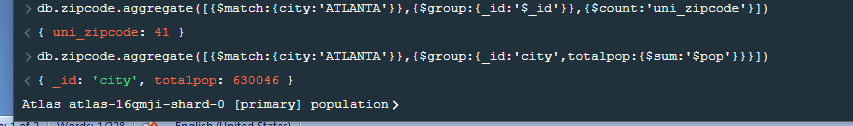
2. use db.zipcodes.aggregate with $match to do the same as above.



1. limit the results to just the first 3 results. What are the top 3 states in population?

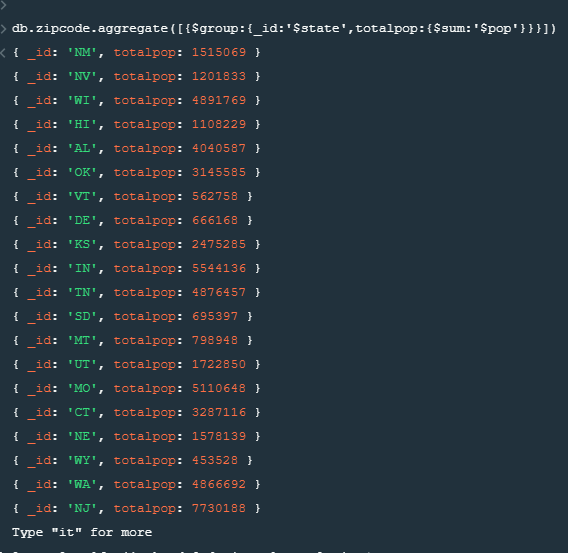


4. use $group to find the total population in Atlanta.

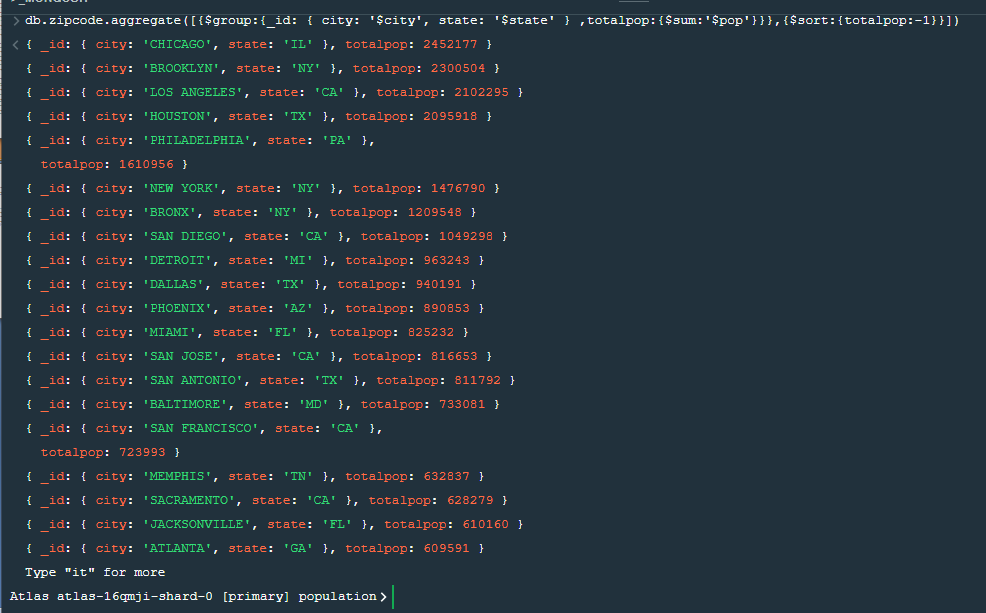


**Populations By State**

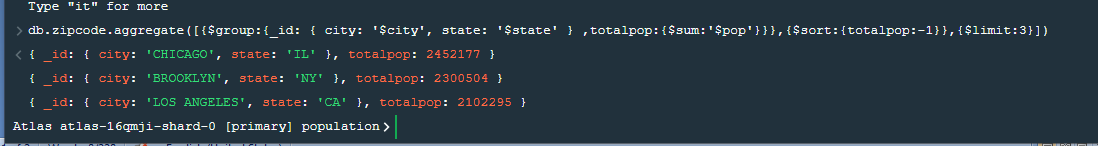
1. use aggregate to calculate the total population for each state.



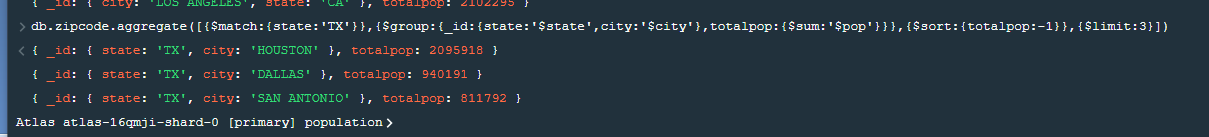
1. sort the results by population, highest first



3. limit the results to just the first 3 results. What are the top 3 cities in population?

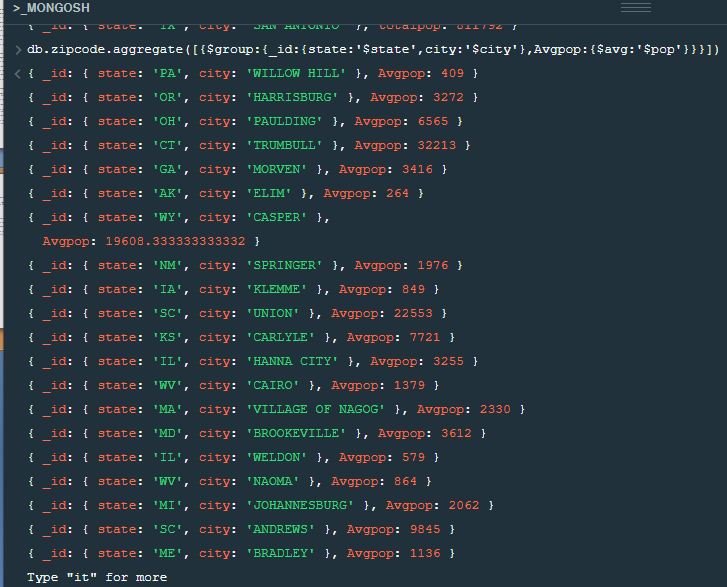


4. What are the top 3 cities in population in Texas?



**Bonus**

1. Write a query to get the average city population for each state.

2. What are the top 3 states in terms of average city population?

