Assignment – 7(802)

MongoDB

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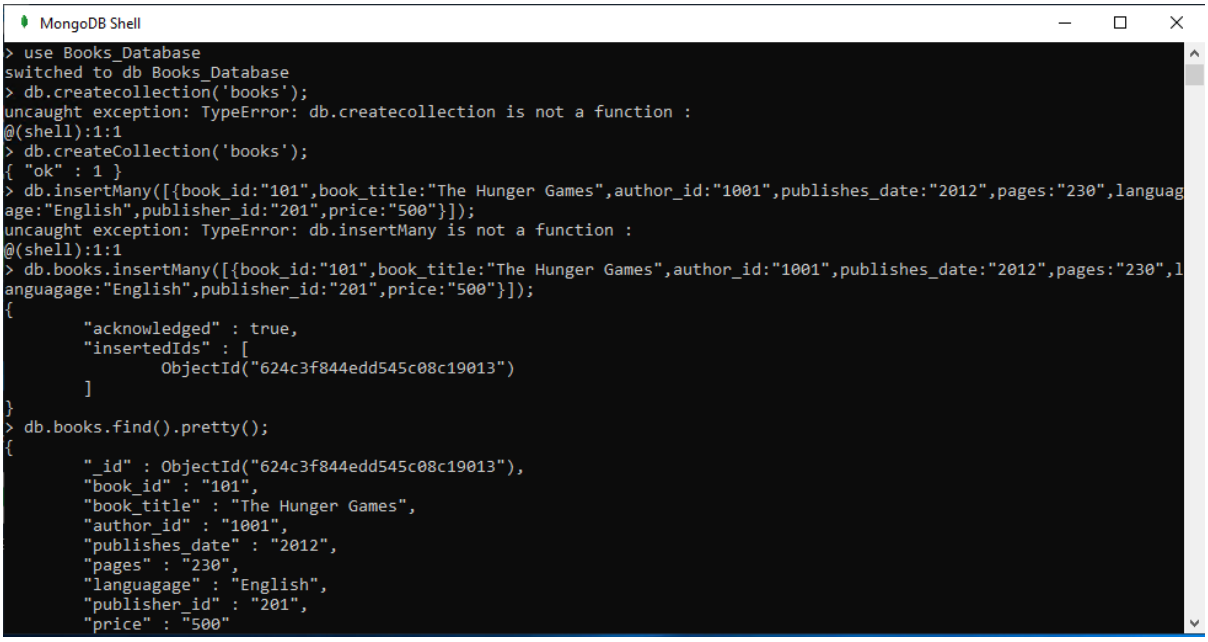
Source Code:
https://github.com/BKarthik1/BKarthik1.gits

Q1. Write a query to display all the documents presents in **books** collection:

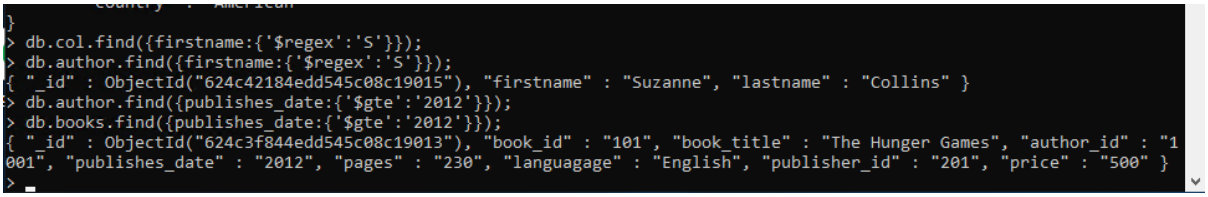


Q2. Write a query to display all the documents presents in **author** collection:

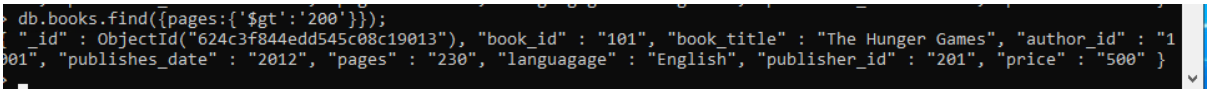
Q3. Write a query to display all the documents presents in **author** collection:

Q4. Write a query to display all of the author whose firstname start with S:

Q5. Write a query to display all the details of the book published date:



Q6. Write a query to display all the details of the book pages greater than 2 and English as a language:



Q7. Write a query to display all the details of the authors age greater than 30 and less than 60:

```
> db.author.find({age:{$gt:'20'}}).pretty();
{
        "_id" : ObjectId("624c43394edd545c08c19016"),
        "age" : "30",
        "gender" : "female",
        "email_id" : "suzannecollinsgmail.com",
        "phone_no" : "123456789"
}
>
```

Q8. . Write a query to display all of the author whose last name start with Collins:

```
> db.author.find({lastname:{'$regex':'Collins'}}).pretty();
{
        "_id" : ObjectId("624c42184edd545c08c19015"),
        "firstname" : "Suzanne",
        "lastname" : "Collins"
}
>
```

Q9. Write a query to display the title of all the documents present in the book collection.

```
> db.books.find({},{title:"The hunger games"}).pretty();
{
        "_id" : ObjectId("624c3f844edd545c08c19013"),
        "title" : "The hunger games"
}
>
```

Q10. Write a query to display author of all the documents present in the last name :

```
> db.books.find({},{lastname:"The hunger games"}).pretty();
{
        "_id" : ObjectId("624c3f844edd545c08c19013"),
        "lastname" : "The hunger games"
}
>
```

Q11. Create a database with the above automobile structure in Mongo Shell:

```
> db.automobile.find();
{ "_id" : "NEXON", "ancestors" : [ "AUTOMOBILE", "CAR", "TATA" ], "parent" : "TATA" }
{ "_id" : "SWIFT", "ancestors" : [ "AUTOMOBILE", "CAR", "MARUTI" ], "parent" : "MARUTI" }
{ "_id" : "TATA", "ancestors" : [ "AUTOMOBILE", "CAR" ], "parent" : "CAR" }
{ "_id" : "MARUTI", "ancestors" : [ "AUTOMOBILE", "CAR" ], "parent" : "CAR" }
{ "_id" : "CAR", "ancestors" : [ "AUTOMOBILE" ], "parent" : "AUTOMOBILE" }
{ "_id" : "AUTOMOBILE", "ancestors" : [ ], "parent" : null }
{ "_id" : "SCOOTY", "ancestors" : [ "AUTOMOBILE", "BIKE", "TVS" ], "parent" : "TVS" }
{ "_id" : "APACHE", "ancestors" : [ "AUTOMOBILE", "BIKE", "TVS" ], "parent" : "TVS" }
{ "_id" : "SHINE", "ancestors" : [ "AUTOMOBILE", "BIKE", "HONDA" ], "parent" : "HONDA" }
{ "_id" : "UNICORN", "ancestors" : [ "AUTOMOBILE", "BIKE", "HONDA" ], "parent" : "HONDA" }
{ "_id" : "TVS", "ancestors" : [ "AUTOMOBILE", "BIKE" ], "parent" : "BIKE" }
{ "_id" : "HONDA", "ancestors" : [ "AUTOMOBILE", "BIKE" ], "parent" : "BIKE" }
{ "_id" : "BIKE", "ancestors" : [ "AUTOMOBILE" ], "parent" : "AUTOMOBILE" }
>
```

Q12. Insert document with Vehicle_no, Owner_name, O_city with relevant values for the HONDA collection:

```
> db.HONDA.insertMany([{vehicle_no:"TN 04 p xxxx"},{owner_name:"Steve"},{O_city:"Tokyo"}]);
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("624c8cff3e431304c26d6f91"),
                ObjectId("624c8cff3e431304c26d6f92"),
                ObjectId("624c8cff3e431304c26d6f93")
        ]
}
```

Q13. Write a query to retrieve the ancestors of the nodes:

```
> db.automobile.findOne({ancestors:"AUTOMOBILE"});
{
        "_id" : "NEXON",
        "ancestors" : [
                "AUTOMOBILE",
                "CAR",
                "TATA"
        ],
        "parent" : "TATA"
}
>
```

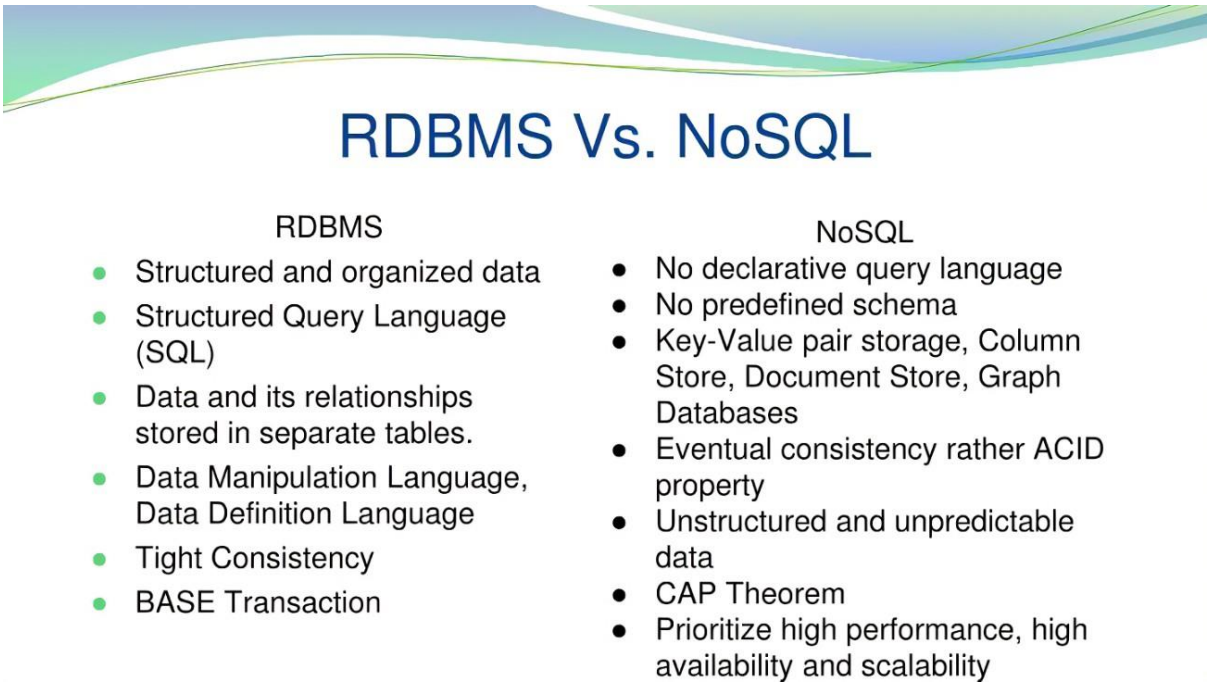
Q14,Write a query to add a new node as BREEZA under Maruti:

```
> db.automobile.insert({_id:"BREEZA", ancestors:["AUTOMOBILE","CAR","MARUTI"],parent:"MARUTI"});
WriteResult({ "nInserted" : 1 })
> db.automobile.find({});
{ "_id" : "NEXON", "ancestors" : [ "AUTOMOBILE", "CAR", "TATA" ], "parent" : "TATA" }
{ "_id" : "SWIFT", "ancestors" : [ "AUTOMOBILE", "CAR", "MARUTI" ], "parent" : "MARUTI" }
{ "_id" : "TATA", "ancestors" : [ "AUTOMOBILE", "CAR" ], "parent" : "CAR" }
{ "_id" : "MARUTI", "ancestors" : [ "AUTOMOBILE", "CAR" ], "parent" : "CAR" }
{ "_id" : "CAR", "ancestors" : [ "AUTOMOBILE" ], "parent" : "AUTOMOBILE" }
{ "_id" : "AUTOMOBILE", "ancestors" : [ ], "parent" : null }
{ "_id" : "SCOOTY", "ancestors" : [ "AUTOMOBILE", "BIKE", "TVS" ], "parent" : "TVS" }
{ "_id" : "APACHE", "ancestors" : [ "AUTOMOBILE", "BIKE", "TVS" ], "parent" : "TVS" }
{ "_id" : "SHINE", "ancestors" : [ "AUTOMOBILE", "BIKE", "HONDA" ], "parent" : "HONDA" }
{ "_id" : "UNICORN", "ancestors" : [ "AUTOMOBILE", "BIKE", "HONDA" ], "parent" : "HONDA" }
{ "_id" : "TVS", "ancestors" : [ "AUTOMOBILE", "BIKE" ], "parent" : "BIKE" }
{ "_id" : "HONDA", "ancestors" : [ "AUTOMOBILE", "BIKE" ], "parent" : "BIKE" }
{ "_id" : "BIKE", "ancestors" : [ "AUTOMOBILE" ], "parent" : "AUTOMOBILE" }
{ "_id" : "BREEZA", "ancestors" : [ "AUTOMOBILE", "CAR", "MARUTI" ], "parent" : "MARUTI" }
>
```

Q15. Write a query to get children nodes of CARS:

```
> db.automobile.insert({_id:"CAR", children:["MARUTI","TATA"]});
WriteResult({ "nInserted" : 1 })
> db.automobile.findOne({_id:"CAR"}).children;
[ "MARUTI", "TATA" ]
>
```

Q16. Write a pros and cons for RDBMS and NoSql Database:



Q17.

NoSQL:

```
> db.SPORT.insert({PLAYER_ID:"5001"},{PLAYER_NAME:"MSD"},{PLAYER_COUNTRY:"IND"},{PLAYER_SPORT_
WriteResult({ "nInserted" : 1 })
> db.SPORT.insert({PLAYER_ID:"5002"},{PLAYER_NAME:"VIRAT"},{PLAYER_COUNTRY:"IND"},{PLAYER_SPOR
WriteResult({ "nInserted" : 1 })
> db.SPORT.insert({PLAYER_ID:"9001"},{PLAYER_NAME:"LIONEL MESSI"},{PLAYER_COUNTRY:"ARG"},{PLAY
WriteResult({ "nInserted" : 1 })
> db.SPORT.insert({PLAYER_ID:"9002"},{PLAYER_NAME:"CRISTIANO RONALDO"},{PLAYER_COUNTRY:"PORT"}
WriteResult({ "nInserted" : 1 })
> db.SPORT.insert({PLAYER_ID:"9003"},{PLAYER_NAME:"RAFAEL NADAL"},{PLAYER_COUNTRY:"SPAIN"},{PL
WriteResult({ "nInserted" : 1 })
> db.SPORT.find();
{ "_id" : ObjectId("624d00e503863f53947a4da7"), "PLAYER_ID" : "5001" }
{ "_id" : ObjectId("624d00fc03863f53947a4da8"), "PLAYER_ID" : "5002" }
{ "_id" : ObjectId("624d012f03863f53947a4da9"), "PLAYER_ID" : "9001" }
{ "_id" : ObjectId("624d015603863f53947a4daa"), "PLAYER_ID" : "9002" }
{ "_id" : ObjectId("624d017d03863f53947a4dab"), "PLAYER_ID" : "9003" }
>
```

SQL:

```
use player
create table SPORTS(
SPORTS_ID INT PRIMARY KEY NOT NULL IDENTITY(1,1),
SPORT_NAME NCHAR(50));
DROP TABLE SPORTS

CREATE TABLE PLAYERS(
PLAYER_ID INT,
PLAYER_NAME VARCHAR(50),
PLAYER_COUNTRY VARCHAR(20),
PLAYER_SPORT_ID INT);

INSERT INTO SPORTS(SPORT_NAME)
VALUES('CRICKET'),('FOOTBALL'),('TENNIS');
```

	SPORTS_ID	SPORT_NAME
1	1	CRICKET
2	2	FOOTBALL
3	3	TENNIS

```
INSERT INTO
PLAYERS(PLAYER_ID,PLAYER_NAME,PLAYER_COUNTRY,PLAYER_SPORT_ID)
 VALUES(5001,'MSD','IND',1),
 (5002,'VIRAT','IND',1),
 (9001,'LIONEL MESSI','ARG',2),
 (9002,'CRISTANIO RONALDO','PORT',2),
 (9003,'RAFAEL NADAL','SPAIN',3);
```

	PLAYER_ID	PLAYER_NAME	PLAYER_COUNTRY	PLAYER_SPORT_ID
1	5001	MSD	IND	1
2	5002	VIRAT	IND	1
3	9001	LIONEL MESSI	ARG	2
4	9002	CRISTANIO RONALDO	PORT	2
5	9003	RAFAEL NADAL	SPAIN	3

Q18.

NOSQL:

```
> db.PLAYET.updateOne({PLAYER_ID:"5002"},{$rename:{"VIRAT":"ROHIT"}});
{ "acknowledged" : true, "matchedCount" : 0, "modifiedCount" : 0 }
> db.PLAYER.find();
```

SQL:

```
ALTER TABLE PLAYERS RENAME COLUMN 'VIRAT' TO 'ROHIT' ;
```

19.

NOSQL:

```
> db.SPORT.count({});
5
>
```

SQL:

```
SELECT  COUNT(PLAYER_ID) FROM PLAYERS
```

	(No column name)
1	5

20.

NOSQL:

```
> db.SPORT.find({});
{ "_id" : ObjectId("624d00e503863f53947a4da7"), "PLAYER_ID" : "5001" }
{ "_id" : ObjectId("624d00fc03863f53947a4da8"), "PLAYER_ID" : "5002" }
```

SQL:

```
SELECT COUNT(PLAYER_ID),PLAYER_COUNTRY FROM PLAYERS GROUP BY PLAYER_COUNTRY
HAVING  COUNT(PLAYER_COUNTRY)>1
```

	(No column name)	PLAYER_COUNTRY
1	2	IND