

KARPAGAM ACADEMY OF HIGHER EDUCATION (Deemed to be University) (Established Under Section 3 of UGC Act, 1956) (For the candidates admitted from 2017 onwards) DEPARTMENT OF CS, CA & IT

			Semester-II
18CSP212	MONGODB - PRAC	CTICAL	4H – 2C
Instruction Hours / week: L: 0 T: 0 P: 4		Marks: Internal:40	External:60 Total: 100
		End Sen	nester Exam : 3 Hours

Course Objectives

To provide students the knowledge and skills to master the NoSQL database mongoDB.

Course Outcomes(COs)

- 1. To provide students the right skills and knowledge needed to develop Applications on mongoDB
- 2. To provide students the right skills and knowledge needed to run Applications on mongoDB

Structure of 'restaurants' collection :

{ "address": { "building": "1007", "coord": [-73.856077, 40.848447], "street": "Morris
Park Ave", "zipcode": "10462" }, "borough": "Bronx", "cuisine": "Bakery", "grades": [{
 "date": { "\$date": 1393804800000 }, "grade": "A", "score": 2 }, { "date": { "\$date": 1378857600000 }, "grade": "A", "score": 6 }, { "date": { "\$date": 1358985600000 },
 "grade": "A", "score": 10 }, { "date": { "\$date": 1322006400000 }, "grade": "A", "score": 2
 9 }, { "date": { "\$date": 1299715200000 }, "grade": "B", "score": 14 }, "name": "Morris
Park Bake Shop", "restaurant_id": "30075445" }

- 1. Write a MongoDB query
 - a. to display all the documents in the collection restaurants.
 - b. to display the fields restaurant_id, name, borough and cuisine for all the documents in the collection restaurant.
 - c. to display the fields restaurant_id, name, borough and cuisine, but exclude the field _id for all the documents in the collection restaurant
 - d. to display the fields restaurant_id, name, borough and zip code, but exclude the field _id for all the documents in the collection restaurant.
 - e. to display all the restaurant which is in the borough Bronx
 - f. to display the first 5 restaurant which is in the borough Bronx.
 - g. to display the next 5 restaurants after skipping first 5 which are in the borough Bronx.
 - h. to find the restaurants who achieved a score more than 90.

- i. to find the restaurants that achieved a score, more than 80 but less than 100.
- 2. Write a MongoDB query
 - a. to find the restaurants which locate in latitude value less than -95.754168.
 - b. to find the restaurants that do not prepare any cuisine of 'American' and their grade score more than 70 and latitude less than -65.754168.
 - c. to find the restaurants which do not prepare any cuisine of 'American' and achieved a score more than 70 and not located in the longitude less than 65.754168. Note : Do this query without using \$and operator. Go to the editor
 - d. to find the restaurants which do not prepare any cuisine of 'American ' and achieved a grade point 'A' not belongs to the borough Brooklyn. The document must be displayed according to the cuisine in descending order.
- 3. Write a MongoDB query
 - a. to find the restaurant Id, name, borough and cuisine for those restaurants which contain 'Wil' as first three letters for its name. Go to the editor
 - b. to find the restaurant Id, name, borough and cuisine for those restaurants which contain 'ces' as last three letters for its name.
 - c. to find the restaurant Id, name, borough and cuisine for those restaurants which contain 'Reg' as three letters somewhere in its name.
- 4. Write a MongoDB query
 - a. to find the restaurants which belong to the borough Bronx and prepared either American or Chinese dish.
 - b. to find the restaurant Id, name, borough and cuisine for those restaurants which belong to the borough Staten Island or Queens or Bronxor Brooklyn.
 - c. to find the restaurant Id, name, borough and cuisine for those restaurants which are not belonging to the borough Staten Island or Queens or Bronxor Brooklyn.
 - d. to find the restaurant Id, name, borough and cuisine for those restaurants which achieved a score which is not more than 10.
 - e. to find the restaurant Id, name, borough and cuisine for those restaurants which prepared dish except 'American' and 'Chinees' or restaurant's name begins with letter 'Wil'.
 - f. to find the restaurant Id, name, and grades for those restaurants which achieved a grade of "A" and scored 11 on an ISODate "2014-08-11T00:00:00Z" among many of survey dates
 - g. to find the restaurant Id, name and grades for those restaurants where the 2nd element of grades array contains a grade of "A" and score 9 on an ISODate "2014-08-11T00:00:00Z".
- 5. Write a MongoDB query to find the restaurant Id, name, address and geographical location for those restaurants where 2nd element of coord array contains a value which is more than 42 and upto 52
- 6. Write a MongoDB query
 - a. to arrange the name of the restaurants in descending along with all the columns.

- b. to arranged the name of the cuisine in ascending order and for that same cuisine borough should be in descending order.
- 7. Write a MongoDB query to know whether all the addresses contains the street or not.
- 8. Write a MongoDB query which will select all documents in the restaurants collection where the coord field value is Double.
- 9. Write a MongoDB query which will select the restaurant Id, name and grades for those restaurants which returns 0 as a remainder after dividing the score by 7.
- 10. Write a MongoDB query to find the restaurant name, borough, longitude and attitude and cuisine for those restaurants which contains 'mon' as three letters somewhere in its name.

SUGGESTED READINGS

- 1. Kyle Banker. (2012). MongoDB in Action. Manning Publications Co.
- Rick Copeland. (2013). MongoDB Applied Design Patterns, 1st Edition, O"Reilly Media Inc.
- Gautam Rege, (2012). Ruby and MongoDB Web Development Beginner's Guide. Packt Publishing Ltd
- 4. Mike Wilson. (2013). Building Node Applications with MongoDB and Backbone,

O"Reilly Media Inc.

- David Hows. (2009). The definitive guide to MongoDB, 2nd edition, Apress Publication, 8132230485
- Shakuntala Gupta Edward. 2016. Practical Mongo DB , 2nd edition, Apress Publications, 2016, ISBN 1484206487

WEBSITES

- 1. http://www.mongodb.org/about/production-deployments/
- 2. http://docs.mongodb.org/ecosystem/drivers/
- 3. http://www.mongodb.org/about/applications/
- 4. http://www.mongodb.org/