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| **Name : Sriram R** | **SRN : PES1UG20CS435 (Roll # : 16)** | **Section : H** |
| **Date : 05-12-2021** | **Unit 4 Assignment Exercise** |
| PROBLEM STATEMENT(Even SRN’s) | | |
| 1. Create a MongoDB database that has a collection of employees having different documents (such as emp\_id, emp\_name, emp\_dob,emp\_type, emp\_dept etc)for each employee. Create a server listening to 8081 that checks the query string submitted to it and retrieves the Employee ID and full names of all employees sorted based on the parameter (either dept or eid only) passed to it. For instance, the URL<http://localhost:8081/?dept=Sales>should display Employee ID and names of employees working in sales. The URL<http://localhost:8081/?eid=2> should display Employee ID and names of employees with Employee ID 2. 2. Create a custom module to generate random numbers and import it in your application and display the random numbers. | | |
| OBJECTIVE | | |
| The objective of this exercise is to test the student on NodeJS and MongoDB.It evaluates the student’s knowledge ofhttp server creation using Node, Reading from MongoDB and NodeJS MongoDB driver. | | |
| PREREQUISITE | | |
| In order to complete this exercise, the student needs to understand the fundamentals of HTML,CSS, and JavaScript | | |
| DATABASE CREATION | | |
| SAMPLE SCREENSHOT OF OUTPUT (Just for your reference) | | |
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| PROGRAM | | |
| **insertDB.js :**  // program to insert records  var MongoClient = require("mongodb").MongoClient;  var url = "mongodb://localhost:27017/empDB";  MongoClient.connect(url, { useUnifiedTOpology: true }, function (err, db) {  if (err) throw err;  console.log("Database Created");  var dbo = db.db("empDB");  // collection creation  dbo.createCollection("Employee", function (err, res) {  if (err) throw err;  console.log("Collection Created");  });  // inserting many documents  var myObjs = [{"emp\_id":"100","emp\_name":"Aqwerty","emp\_dob":"12/1/1989", "emp\_type":"night-shift","emp\_dept":"IT"},  {"emp\_id":"101","emp\_name":"Basdfg","emp\_dob":"13/2/1990", "emp\_type":"day-shift","emp\_dept":"HR"},  {"emp\_id":"102","emp\_name":"Czxcvb","emp\_dob":"14/3/1991", "emp\_type":"night-shift","emp\_dept":"legal"},  {"emp\_id":"103","emp\_name":"Dpoiuy","emp\_dob":"15/4/1992", "emp\_type":"day-shift","emp\_dept":"management"},  {"emp\_id":"104","emp\_name":"Elkjhg","emp\_dob":"16/5/1993", "emp\_type":"night-shift","emp\_dept":"sales"}];  dbo.collection("Employee").insertMany(myObjs, function (err, res) {  if (err) throw err;  console.log("Number of documents inserted : ", res.insertedCount);  });  // display database  dbo.collection("Employee").find({}).toArray(function (err, result) {  if (err) throw err;  console.log(result);  db.close();  })  });  **q1p1.js :**  var http = require('http');  var url = require('url');  var fs = require('fs');  var qs = require('querystring');  var MongoClient = require('mongodb').MongoClient;  var dburl = "mongodb://localhost:27017/";  http.createServer(function (request, response) {  if (request.method == "GET") {  var myurl = url.parse(request.url);  var pathname = myurl.pathname;  MongoClient.connect(dburl, function (err, db) {  var dbo = db.db('empDB');  var query = myurl.query;  var qobj = qs.parse(query);  dbo.collection('Employee').find(qobj).toArray(function (err, result) {  if (err) throw err;  response.writeHead(200, { 'Content-Type': 'text/html' });  response.write("<p> Part 1 </p>");  for (var i = 0; i < result.length; i++) response.write('<p> Employee name : ' + JSON.stringify(result[i].emp\_name) + ' Employee\_ID : ' + JSON.stringify(result[i].emp\_id) + '</p>');  response.end();  db.close();  });  });  }  }).listen(8081); console.log("Server started");  **q1p2.js :**  var http = require('http');  var url = require('url');  var fs = require('fs');  var qs = require('querystring');  var MongoClient = require('mongodb').MongoClient;  var dburl = "mongodb://localhost:27017/";  http.createServer(function (request, response) {  if (request.method == "GET") {  var myurl = url.parse(request.url);  var pathname = myurl.pathname;  MongoClient.connect(dburl, function (err, db) {  var dbo = db.db('empDB');  var query = myurl.query;  var q2obj = qs.parse(query);  dbo.collection('Employee').find(q2obj).toArray(function (err, result) {  if (err) throw err;  response.writeHead(200, { 'Content-Type': 'text/html' });  response.write("<p> Part 2 </p>");  for (var i = 0; i < result.length; i++) response.write('<p> Employee name : ' + JSON.stringify(result[i].emp\_name) + ' Employee\_ID : ' + JSON.stringify(result[i].emp\_id) + '</p>');  response.end();  db.close();  });  });  }  }).listen(8081);  console.log("Server started");  **q2main.js :**  const fs = require("fs");  const result = require("./q2module.js");  console.log(result.re);  console.log(result.re);  console.log(result.re);  console.log(result.re);  **q2module.js :**  const result = Math.random() \* (20 - 17) + 12;  exports.re = result; | | |
| SCREENSHOT OF YOUR OUTPUT | | |
| Q1 : **Q2 :** | | |