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	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 URLhttp://localhost:8081/?dept=Salesshould display Employee ID and names of employees working in sales. The URLhttp://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.

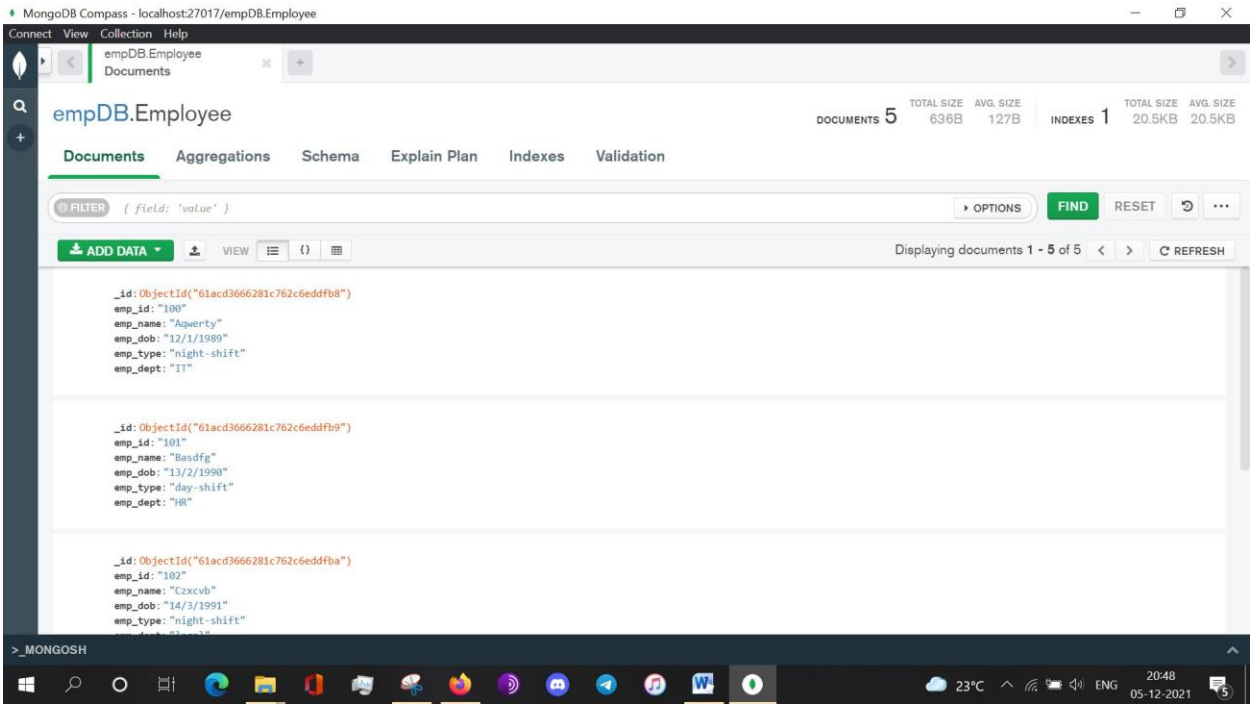
OBJECTIVE

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

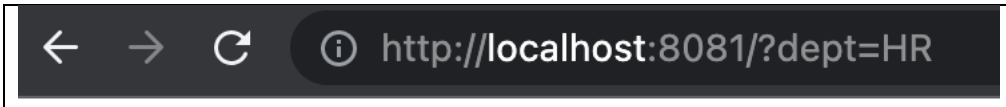
In order to complete this exercise, the student needs to understand the fundamentals of HTML,CSS, and JavaScript

DATABASE CREATION



SAMPLE SCREENSHOT OF OUTPUT (Just for your reference)

2:BobB



2:BobB

3:JohnJ

9:AlexaA

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 :

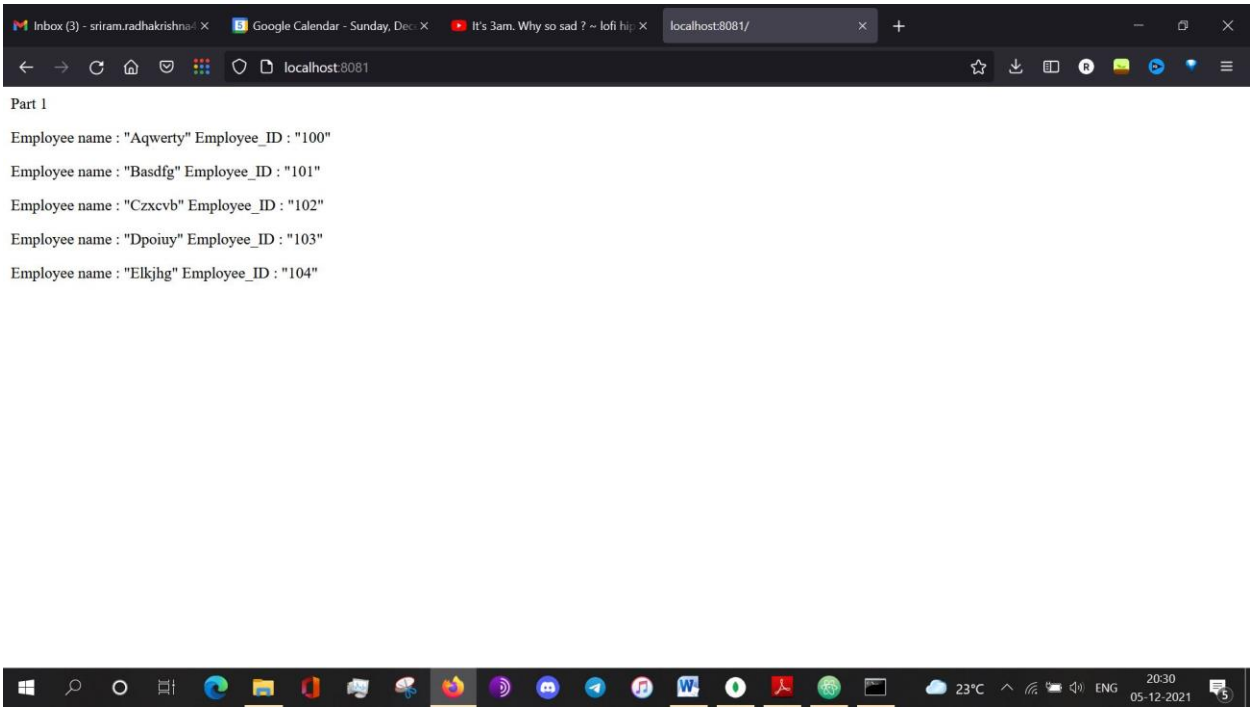
```
const fs = require("fs");
const result = require("./q2module.js");

console.log(result.re);
console.log(result.re);
console.log(result.re);
console.log(result.re);
```

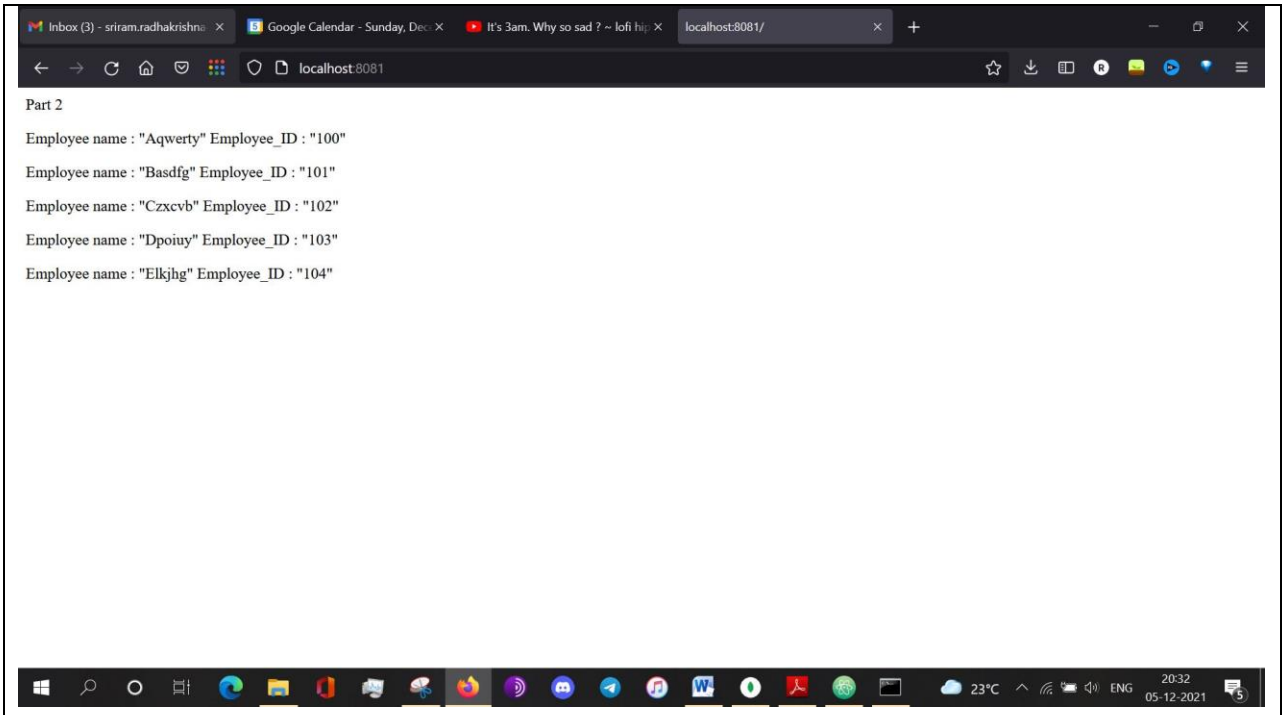
q2module.js :

```
const result = Math.random() * (20 - 17) + 12;
exports.re = result;
```

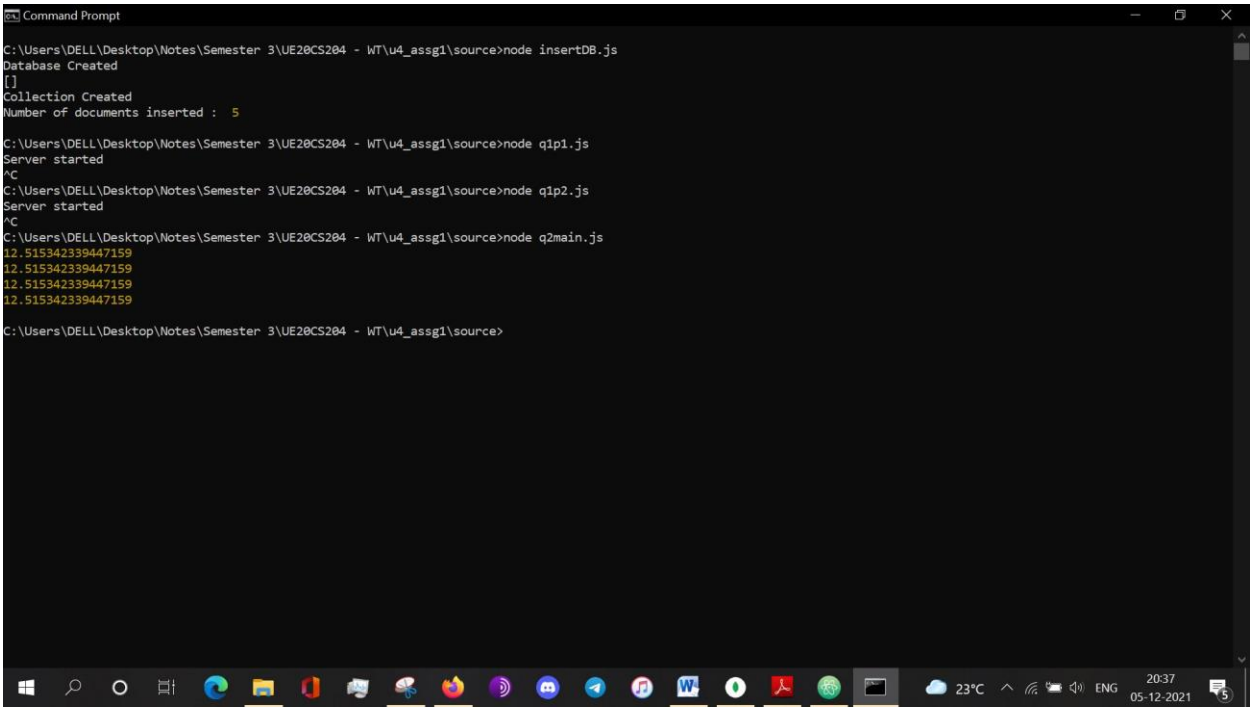
SCREENSHOT OF YOUR OUTPUT

Q1 :




Inbox (3) - sriram.radhakrishna
Google Calendar - Sunday, Dec
It's 3am. Why so sad ? ~ lofi hip
localhost:8081/
localhost:8081
Part 2
Employee name : "Aqwerty" Employee_ID : "100"
Employee name : "Basdfg" Employee_ID : "101"
Employee name : "Czxcvb" Employee_ID : "102"
Employee name : "Dpoiuy" Employee_ID : "103"
Employee name : "Elkjhg" Employee_ID : "104"
23°C
ENG
20:32
05-12-2021

Q2 :


Command Prompt
C:\Users\DELL\Desktop\Notes\Semester 3\UE20CS204 - WT\u4_assg1\source>node insertDB.js
Database Created
[]
Collection Created
Number of documents inserted : 5
C:\Users\DELL\Desktop\Notes\Semester 3\UE20CS204 - WT\u4_assg1\source>node q1p1.js
Server started
^C
C:\Users\DELL\Desktop\Notes\Semester 3\UE20CS204 - WT\u4_assg1\source>node q1p2.js
Server started
^C
C:\Users\DELL\Desktop\Notes\Semester 3\UE20CS204 - WT\u4_assg1\source>node q2main.js
12.515342339447159
12.515342339447159
12.515342339447159
12.515342339447159
C:\Users\DELL\Desktop\Notes\Semester 3\UE20CS204 - WT\u4_assg1\source>
23°C
ENG
20:37
05-12-2021