PROGRAM:-

```
const fs=require('fs');
fs.readdir('./', (err, files) => {
   let files_json = JSON.stringify({files})
   console.log(files_json)
});
```
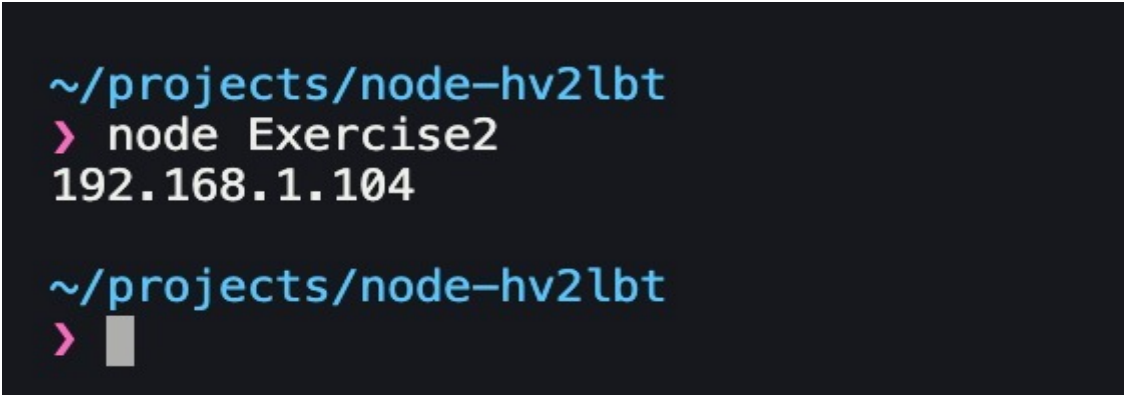
OUTPUT:-

```
~/projects/node-hv2lbt
> node Exercise1
{"files":["Exercise1.js","Exercise2.js","Exercise3.js","Exercise4.js","Exercise5.js",
"Exercise6.html","package.json"]}

~/projects/node-hv2lbt
>
```

PROGRAM:-

```
var os = require( 'os' );
var networkInterfaces = os.networkInterfaces();
var arr = networkInterfaces['en1']
console.log(arr[1].address)
```

OUTPUT:-

```
~/projects/node—hv2lbt
> node Exercise2
192.168.1.104

~/projects/node—hv2lbt
>
```
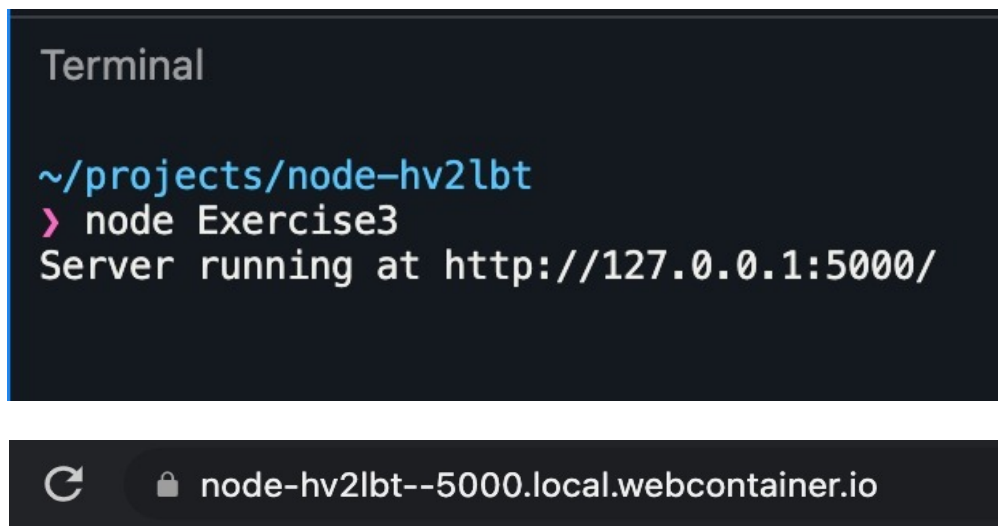
PROGRAM:-

```
var http = require('http');

function checkCookie (request) {
  rc = request.headers.cookie;
  if(rc){
    return true
  }
  else{
    return false
  }
}

http.createServer(function (request, response) {
 response.writeHead(200, {'Content-Type': 'text/plain'});
 response.end('Cookie Present : '+checkCookie(request));
 //ßconsole.log(checkCookie(request))
}).listen(5000);

console.log('Server running at http://127.0.0.1:5000/');
```

OUTPUT:-

Terminal

~/projects/node–hv2lbt
❯ node Exercise3
Server running at http://127.0.0.1:5000/

node-hv2lbt--5000.local.webcontainer.io

Cookie Present : false

PROGRAM:-

```
const express = require('express'); const mysql = require('mysql');

// Create connection
const db = mysql.createConnection({ host    : 'localhost',
user    : 'root', password : 'gokulraj', database : 'time'
});

// Connect db.connect((err) => {
if(err){
throw err;



});

}
console.log('MySql Connected...');


const app = express();

// Create DB
app.get('/createdb/:txt', (req, res) => { var tx=req.param('txt');
let sql = 'CREATE DATABASE '+tx;
db.query(sql, (err, result) => { if(err) throw err; console.log(result); res.send('Database created...');
});
});
// Insert data for table 1 app.get('/addcardata/:carname/:companyname', (req, res) => {
let post = {name:req.param('carname')+'', companyname:req.param('companyname')+''};
let sql = 'INSERT INTO cars SET ?';
let query = db.query(sql, post, (err, result) => { if(err) throw err;
console.log(result); res.send('Post added...');
});
});
// Insert data for table 1 app.get('/adduserdata/:uname', (req, res) => {
let post = {User_name:req.param('uname')+''}; let sql = 'INSERT INTO user SET ?';

let query = db.query(sql, post, (err, result) => { if(err) throw err;
console.log(result); res.send('Post added...');
});
});

// Create table1 app.get('/createtable1', (req, res) => {
```

```javascript
let sql = 'CREATE TABLE cars(modelno int AUTO_INCREMENT, name VARCHAR(255), companyname VARCHAR(255), PRIMARY KEY(modelno))';
db.query(sql, (err, result) => { if(err) throw err; console.log(result); res.send('Car table created...');
});
});
// Create table2 app.get('/createtable2', (req, res) => {
let sql = 'CREATE TABLE user(modelno int AUTO_INCREMENT, User_name VARCHAR(255), PRIMARY KEY(modelno))';
db.query(sql, (err, result) => { if(err) throw err; console.log(result); res.send('user table created...');
});
});

// Select result by joining the table... app.get('/selecttables', (req, res) => {
let sql = 'select * from cars Natural join user'; db.query(sql, (err, result) => {
if(err) throw err; console.log('printed'); res.send(result);
});
});

// Select result by carname... app.get('/searchbycar/:txt', (req, res) => {
var tx=req.param('txt');
let sql = 'select * from cars Natural join user where name
='+mysql.escape(tx); db.query(sql, (err, result) => {
if(err) throw err; console.log('printed'); res.send(result);
});
});

// Select result by model number... app.get('/searchbycarnumber/:txt', (req, res) => {
var tx=req.param('txt');
let sql = 'select * from cars Natural join user where modelno
='+mysql.escape(tx); db.query(sql, (err, result) => {
if(err) throw err; console.log('printed'); res.send(result);
});
});

// Select result by user... app.get('/searchbyusername/:txt', (req, res) => {
let sql = 'select * from cars Natural join user where User_name
='+mysql.escape(tx); db.query(sql, (err, result) => {
if(err) throw err; console.log('printed'); res.send(result);
});
});


// Display first 5 rows... app.get('/displayfirst5', (req, res) => {
var tx=req.param('txt');
let sql = 'select * from cars Natural join user limit 5'; db.query(sql, (err, result) => {
if(err) throw err; console.log('printed'); res.send(result);
});
```

```
});

// Display recently added 5 rows... app.get('/displayrescently5', (req, res) => {
var tx=req.param('txt');
let sql = 'select * from cars Natural join user order by cars.modelno desc limit 5';
db.query(sql, (err, result) => { if(err) throw err; console.log('printed'); res.send(result);
});
});
app.listen('3030', () => {
console.log('Server started on port 3030');
});
```

OUTPUT:-

localhost:3030/createdb/fs

localhost:3030/createdb/fs

Database created...

localhost:3030/searchbyc

localhost:3030/searchbycarnumber/8

[{"modelno":8,"name":"Swift","companyname":"Maruti Suzuki","User_name":"Dhenesh Kumar"}]

PROGRAM:-

```
var MongoClient = require('mongodb').MongoClient; const express = require('express');
var url="mongodb://localhost:27017/"; var dbo;
var dbase='fs';
// Connect to mongodb MongoClient.connect("mongodb://localhost:27017/", function(err, db) {
if(!err) {
console.log("We are connected");
}
});
const app = express();
// Create DB and Collection app.get('/createdb/:txt/:txtt', (req, res) => {
dbase = req.param('txt'); var txx = req.param('txtt');
MongoClient.connect(url, function(err, db) { if (err) throw err;
dbo = db.db(dbase); dbo.createCollection(txx, function(err, res1) {
if (err) throw err;
res.send("Database and Collection created!");
});
});
});


// Insert data for Document 1 app.get('/addcardata/:modelno/:carname/:companyname', (req, res)
=> {

MongoClient.connect(url, function(err, db) { if (err) throw err;
var dbo = db.db(dbase); var myobj =
{ modelno:req.param('modelno')+'',name:req.param('carname')+'',
companyname:req.param('companyname')+''};
dbo.collection("cars").insertOne(myobj, function(err, res1) { if (err) throw err;
res.send(" document inserted"); db.close();
});
if (err) throw err;
var dbo = db.db(dbase); var myobj =
{ modelno:req.param('modelno')+'',uname:req.param('username')+''};
dbo.collection("user").insertOne(myobj, function(err, res1) {
if (err) throw err;
res.send(" document inserted"); db.close();
 });
 });
 });

// Select result by joining the table... app.get('/selecttables', (req, res) => {
MongoClient.connect(url, function(err, db) { if (err) throw err;
var dbo = db.db(dbase); dbo.collection('cars').aggregate([
{ $lookup:
{
```

```
      from: 'user', localField: 'modelno',
      foreignField: 'modelno', as: 'cars'
    }
  }
]).toArray(function(err, res1) { if (err) throw err;
res.send(JSON.stringify(res1)); db.close();
});
});


});


// Select result by carname... app.get('/searchbycarname/:txt', (req, res) => {
var tx=req.param('txt')+''; MongoClient.connect(url, function(err, db) {
if (err) throw err;
var dbo = db.db(dbase); dbo.collection("cars").find({name:tx}).toArray(function(err, result) {
if (err) throw err; res.send(result); db.close();
 });
 });
 });

// Select result by carno... app.get('/searchbycarno/:txt', (req, res) => {
var tx=req.param('txt')+''; MongoClient.connect(url, function(err, db) {


        });
if (err) throw err;
var dbo = db.db(dbase); dbo.collection("cars").find(
{modelno:tx}).toArray(function(err, result) {
if (err) throw err; res.send(result); db.close();
});
});
});
})

// Select result by username... app.get('/searchbyusername/:txt', (req, res) => {
var tx=req.param('txt')+''; MongoClient.connect(url, function(err, db) {
if (err) throw err;
var dbo = db.db(dbase); dbo.collection("user").find({uname:tx}).toArray(function(err, result) {
if (err) throw err; res.send(result); db.close();
});
});
});

// Display first 5 rows... app.get('/displayfirst5', (req, res) => {
MongoClient.connect(url, function(err, db) { if (err) throw err;
var dbo = db.db(dbase); dbo.collection('cars').find().limit(5).toArray(function(err, result) {
if (err) throw err; res.send(result); db.close();
```

OUTPUT:-
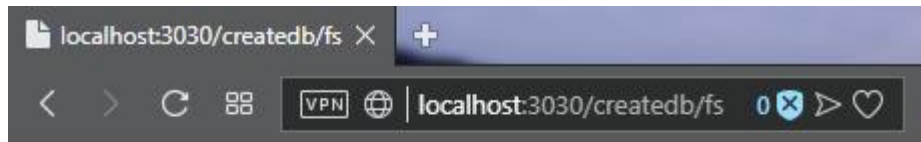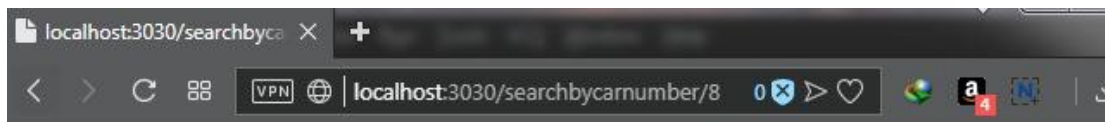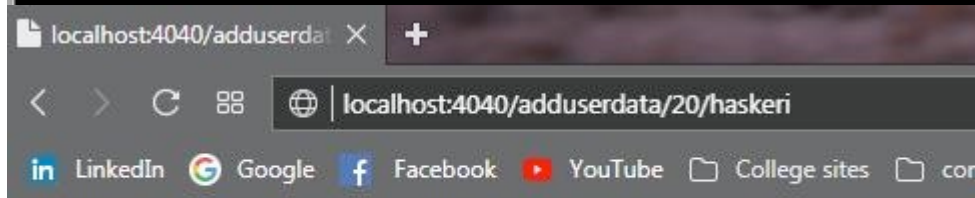
C:\Windows\System32\cmd.exe - node exno03

Microsoft Windows [Version 6.1.7601]
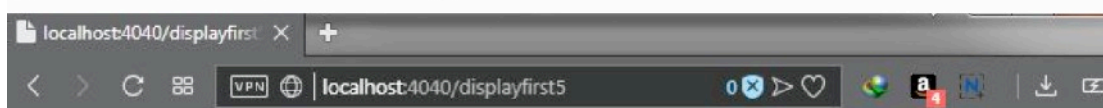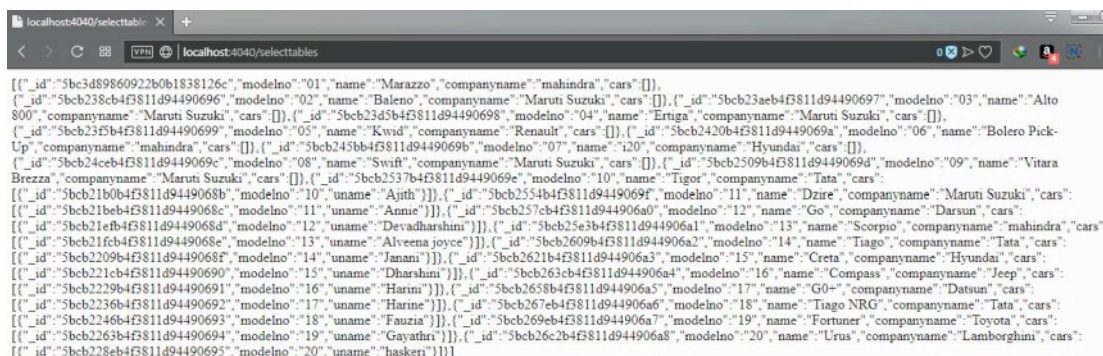Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\AGR\Documents\Full stack lab>node exno03
(node:7612) DeprecationWarning: current URL string parser is deprecated, and wil
l be removed in a future version. To use the new parser, pass option { useNewUrl
Parser: true } to MongoClient.connect.
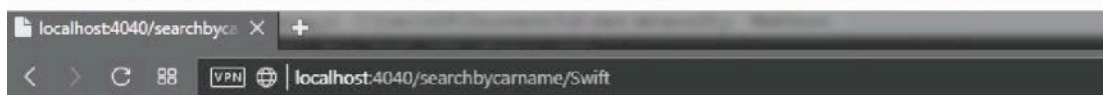Server started on port 4040
We are connected

localhost:4040/adduserda ✕ +

⟨ ⟩ C 88 ⊕ | localhost:4040/adduserdata/20/haskeri

in LinkedIn Ⓖ Google f Facebook ▶ YouTube ☐ College sites ☐ com

document inserted

localhost:4040/createdb/f ✕ +

⟨ ⟩ C 88 VPN ⊕ | localhost:4040/createdb/fs/cars

Database and Collection created!

localhost:4040/selecttable ✕ +

⟨ ⟩ C 88 VPN ⊕ | localhost:4040/selecttables

[{"_id":"5bc3d89860922b0b1838126c","modelno":"01","name":"Marazzo","companyname":"mahindra","cars":[]},
{"_id":"5bcb238cb4f3811d94490696","modelno":"02","name":"Baleno","companyname":"Maruti Suzuki","cars":[]},{"_id":"5bcb23aeb4f3811d94490697","modelno":"03","name":"Alto
800","companyname":"Maruti Suzuki","cars":[]},{"_id":"5bcb23d5b4f3811d94490698","modelno":"04","name":"Ertiga","companyname":"Maruti Suzuki","cars":[]},
{"_id":"5bcb23f5b4f3811d94490699","modelno":"05","name":"Kwid","companyname":"Renault","cars":[]},{"_id":"5bcb2420b4f3811d9449069a","modelno":"06","name":"Bolero Pick-
Up","companyname":"mahindra","cars":[]},{"_id":"5bcb245bb4f3811d9449069b","modelno":"07","name":"i20","companyname":"Hyundai","cars":[]},
{"_id":"5bcb24ceb4f3811d9449069c","modelno":"08","name":"Swift","companyname":"Maruti Suzuki","cars":[]},{"_id":"5bcb2509b4f3811d9449069d","modelno":"09","name":"Vitara
Brezza","companyname":"Maruti Suzuki","cars":[]},{"_id":"5bcb2537b4f3811d9449069e","modelno":"10","name":"Tigor","companyname":"Tata","cars":
[{"_id":"5bcb21b0b4f3811d9449068b","modelno":"10","uname":"Ajith"}]},{"_id":"5bcb2554b4f3811d9449069f","modelno":"11","name":"Dzire","companyname":"Maruti Suzuki","cars":
[{"_id":"5bcb21beb4f3811d9449068c","modelno":"11","uname":"Annie"}]},{"_id":"5bcb257cb4f3811d944906a0","modelno":"12","name":"Go","companyname":"Darsun","cars":
[{"_id":"5bcb21efb4f3811d9449068d","modelno":"12","uname":"Devadharshini"}]},{"_id":"5bcb25e3b4f3811d944906a1","modelno":"13","name":"Scorpio","companyname":"mahindra","cars":
[{"_id":"5bcb21fcb4f3811d9449068e","modelno":"13","uname":"Alveena joyce"}]},{"_id":"5bcb2609b4f3811d944906a2","modelno":"14","name":"Tiago","companyname":"Tata","cars":
[{"_id":"5bcb2209b4f3811d9449068f","modelno":"14","uname":"Janani"}]},{"_id":"5bcb2621b4f3811d944906a3","modelno":"15","name":"Creta","companyname":"Hyundai","cars":
[{"_id":"5bcb221cb4f3811d94490690","modelno":"15","uname":"Dharshini"}]},{"_id":"5bcb263cb4f3811d944906a4","modelno":"16","name":"Compass","companyname":"Jeep","cars":
[{"_id":"5bcb2229b4f3811d94490691","modelno":"16","uname":"Harini"}]},{"_id":"5bcb2658b4f3811d944906a5","modelno":"17","name":"G0+","companyname":"Datsun","cars":
[{"_id":"5bcb267eb4f3811d944906a6","modelno":"17","uname":"Harine"}]},{"_id":"5bcb267eb4f3811d944906a6","modelno":"18","name":"Tiago NRG","companyname":"Tata","cars":
[{"_id":"5bcb2246b4f3811d94490693","modelno":"18","uname":"Fauzia"}]},{"_id":"5bcb269eb4f3811d944906a7","modelno":"19","name":"Fortuner","companyname":"Toyota","cars":
[{"_id":"5bcb2263b4f3811d94490694","modelno":"19","uname":"Gayathri"}]},{"_id":"5bcb26c2b4f3811d944906a8","modelno":"20","name":"Urus","companyname":"Lamborghini","cars":
[{"_id":"5bcb228eb4f3811d94490695","modelno":"20","uname":"haskeri"}]}]

localhost:4040/displayfirst ✕ +

⟨ ⟩ C 88 VPN ⊕ | localhost:4040/displayfirst5

[{"_id":"5bc3d89860922b0b1838126c","modelno":"01","name":"Marazzo","companyname":"mahindra"},
{"_id":"5bcb238cb4f3811d94490696","modelno":"02","name":"Baleno","companyname":"Maruti Suzuki"},
{"_id":"5bcb23aeb4f3811d94490697","modelno":"03","name":"Alto 800","companyname":"Maruti Suzuki"},
{"_id":"5bcb23d5b4f3811d94490698","modelno":"04","name":"Ertiga","companyname":"Maruti Suzuki"},
{"_id":"5bcb23f5b4f3811d94490699","modelno":"05","name":"Kwid","companyname":"Renault"}]

localhost:4040/searchbyca ✕ +

⟨ ⟩ C 88 VPN ⊕ | localhost:4040/searchbycarname/Swift

[{"_id":"5bcb24ceb4f3811d9449069c","modelno":"08","name":"Swift","companyname":"Maruti Suzuki"}]

PROGRAM:-

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Exercise 6</title>
    <style>
        .avatar{
            height: 150px;
            width: 150px;
            border-radius: 50%;
            border: solid grey;
            border-width: 2px;
            display: block;
            margin-left: auto;
            margin-right: auto;
        }
    </style>
</head>
<body>
    <img src="./cat.jpeg" class="avatar">
</body>
</html>
```

OUTPUT:-

PROGRAM:-

Marks.sql:-

```
-- phpMyAdmin SQL Dump
-- version 4.8.0.1
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Nov 04, 2021 at 08:40 PM
-- Server version: 10.1.32-MariaDB
-- PHP Version: 5.6.36

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;


--
-- Database: `FS-Lab`
--


-- --------------------------------------------------------


--
-- Table structure for table `students`
--

CREATE TABLE `students` (
  `fname` varchar(50) COLLATE latin1_general_ci NOT NULL,
  `lname` varchar(50) COLLATE latin1_general_ci NOT NULL,
  `DOB` date NOT NULL,
  `branch` varchar(10) COLLATE latin1_general_ci NOT NULL,
  `score` int(11) NOT NULL,
  `regno` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1 COLLATE=latin1_general_ci;


--
-- Dumping data for table `students`
--
```

```sql
INSERT INTO `students` (`fname`, `lname`, `DOB`, `branch`, `score`, `regno`) VALUES
('Bill', 'Gates', '1987-03-05', 'CSE-C', 92, 15108006),
('Steve', 'Jobs', '1978-02-16', 'CSE-B', 98, 15108007),
('James', 'Bond', '1976-01-26', 'CSE-A', 90, 15108008),
('Elon ', 'Musk', '1989-06-01', 'CSE-A', 100, 15108009),
('Tony ', 'stark', '1980-08-10', 'Mech-D', 63, 151080010),
('Will ', 'Smith', '1977-05-30', 'FT-B', 87, 151080011);

--
-- Indexes for dumped tables
--


--
-- Indexes for table `students`
--
ALTER TABLE `students`
  ADD PRIMARY KEY (`regno`);
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

Marks.php:-
```php
<?php
$conn = new mysqli('localhost', 'root', '', 'Results');
// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}
else{
   $sql="SELECT * FROM marks";
   $result=$conn->query($sql);

   while($row = $result->fetch_assoc()) {
      $records[] = $row;
   }
   echo json_encode($records);
}
?>
```


Results.htm
```html
<!DOCTYPE html>
<html>
<script src="https://cdnjs.cloudflare.com/ajax/libs/angular.js/1.5.11/angular.min.js"></script>
<body>
   <h1>Welcome</h1>
<div ng-app="myApp" ng-controller="customersCtrl" ng-init="searchstd()">
```

```html
  <select ng-model="SortColumn">

    <option value="fname">Name Asc</option>
    <option value="-fname">Name Desc</option>
    <option value="lname">last name Asc</option>
    <option value="-lname">last name Desc</option>
    <option value="DOB">DOB ASC</option>
    <option value="-DOB">DOB Desc</option>
    <option value="branch">branch ASC</option>
    <option value="-branch">branch DESC</option>
    <option value="score">score Asc</option>
    <option value="-score">score Desc</option>
    </select>
<table border="1">
 <tr>
 <th>First Name</th>
 <th>Last Name</th>
 <th>Date Of Birth</th>
 <th>Branch & Sec</th>
 <th>Score</th>
 <th>Register Number</th>
</tr>
 <tr ng-repeat="x in getdetails|orderBy:SortColumn">
  <td>{{ x.fname }}</td>
  <td>{{x.lname}}</td>
  <td>{{x.DOB}}</td>
  <td>{{x.branch}}</td>
  <td>{{ x.score }}</td>
  <td>{{x.regno}}</td>
 </tr>
</table>
</div>
<script>
var app = angular.module('myApp', []);
app.controller('customersCtrl', function($scope, $http) {
 $scope.searchstd=function()
 {
  $http.get('marks.php')
  .success(function (data)
  {
   $scope.getdetails = data;
   });
 }
});
</script>
</body>
</html
```

Welcome

First Name	Last Name	Date Of Birth	Branch & Sec	Score	Register Number
Bill	Gates	1987-03-05	CSE-C	92	15108006
Steve	Jobs	1978-02-16	CSE-B	98	15108007
James	Bond	1976-01-26	CSE-A	90	15108008
Elon	Musk	1989-06-01	CSE-A	100	15108009
Tony	stark	1980-08-10	Mech-D	63	151080010
Will	Smith	1977-05-30	FT-B	87	151080011

PROGRAM:-

Login.php:-
```php
<!DOCTYPE html>
<html>
<body align="center">
  <?php
  try {
    // Create a Redis Instance
    $redis = new Redis();
    $redis->connect('127.0.0.1', 6379);
  } catch (Exception $ex) {
    echo $ex->getMessage();
  }
  session_start();
  $conn=mysqli_connect('localhost','root','','users');
  if(isset($_POST['submit'])){
    if(isset($_POST['email']) && isset($_POST['password'])){
      $email=$_POST['email'];
      $password=$_POST['password'];
      $sql = "SELECT userid,username FROM login WHERE email = '$email' and passcode =
'$password'";
    $result = mysqli_query($conn,$sql);
      $count = mysqli_num_rows($result);
      $row  = mysqli_fetch_array($result);
      if(is_array($row)) {
        $_SESSION["id"] = $row['userid'];
        $_SESSION["username"] = $row['username'];
        }else {
          $message = "Invalid Username or Password!";
        }
      if($_SESSION["username"]){
        echo 'here';
        $redis->set('E-mail', $email);
        $name = $redis->get('E-mail');
        echo $name;
        header('location:home.php');
      }else{
        echo 'Nope';
      }
    }
  }
  if(isset($_COOKIE["Email"])&&isset($_COOKIE["Password"])){
    $sql = "SELECT userid FROM login WHERE email = '".$_COOKIE["Email"]."' and passcode =
'".$_COOKIE["Password"]."'";
    $result = mysqli_query($conn,$sql);
```

```php
            $count = mysqli_num_rows($result);
            if($count==1){
                echo 'here';
                header('location:home.php');
            }else{
                echo 'Username or Password is wrong';
            }
        }
    ?>
    <form method="post">
        <h1>Welcome To My Web Page</h1>
        <input type="email" placeholder="Enter Your Email ID" name="email"/><br><br>
        <input type="Password" placeholder="Enter Your Password" name="password"/><br><br>
        <input type="submit" name="submit"/><br><br>
        <a href="register.php">New User? Click here</a>
    </form>
</body>
</html>
```

Register.php:-

```php
<!DOCTYPE html>
<html>
<body align="center">
    <?php
    $conn=mysqli_connect('localhost','root','','users');
    if(isset($_POST['submit'])){
        session_start();
        if(isset($_POST['email']) && $_POST['password'] && isset($_POST['name']) &&
$_POST['phone']){
            $email=$_POST['email'];
            $password=$_POST['password'];
            $name=$_POST['name'];
            $phone=$_POST['phone'];
            $sql = "INSERT INTO login (email,passcode,username,phone)
VALUES('$email','$password','$name','$phone')";
            if ($conn->query($sql) === TRUE) {
                setcookie("Email", $email);
                setcookie("Password", $password);
                $_SESSION["username"]=$name;
                echo "New record created successfully";
                header('location:home.php');
            } else {
                echo "Error: " . $sql . "<br>" . $conn->error;
            }
        }
    }
```

```php
        ?>
      <form method="post">
        <h1>Welcome To My Web Page</h1>
        <input type="text" placeholder="Enter Your Name" name="name"/><br><br>
        <input type="email" placeholder="Enter Your Email ID" name="email"/><br><br>
        <input type="Password" placeholder="Enter Your Password" name="password"/><br><br>
        <input type="phone" placeholder="Enter Your Phone Number" name="phone"/><br><br>
        <input type="submit" name="submit"/><br><br>
        <a href="login.php">Already have an account? Click here</a>
      </form>
</body>
</html>
```

Home.php:-

```php
<?php
session_start();
if(isset($_POST["logout"])){
unset($_SESSION["id"]);
unset($_SESSION["username"]);
header("Location:login.php");
}
$redis = new Redis();
$redis->connect('127.0.0.1', 6379);
$email = $redis->get('E-mail');
?>
<!DOCTYPE html>
<html>
    <body>
      <style>
        h1{
           color:#fff;
        }
        body{
           background-color:#000;
        }
        Button{
           color:white;
           background-color:red;
           cursor: pointer;
           text-align: center;
           align:center;
           border-radius:5px;
           left: 50%;
           width:10%;
           height:5%;
           position: absolute;
```

```html
            }
        </style>
        <h1>Hello, <?php echo $_SESSION["username"]; ?></h1>
    <h1><?php echo $email; ?></h1>

  <marquee width="100%" direction="left" height="100px">
      <h1>Welcome to My Home Page :)</h1>
</marquee>
<form method="post">
<Button name="logout">logout</Button>
      </form>
    </body>
</html>
```

Email.js:-

```javascript
const redis = require('redis');
var nodemailer = require('nodemailer');
const client = redis.createClient();

client.on('connect', function() {
 console.log('Connected!');
});

client.get('E-mail', function(err, reply) {
 console.log(reply);
 var transporter = nodemailer.createTransport({
 service: 'gmail',
 auth: {
   user: 'unknown@gmail.com',
   pass: ''
 }
});
var mailOptions = {
 from: 'unknown@gmail.com',
 to: reply,
 subject: 'Hello User',
 text: 'Welcome User thank you for using our services good luck'
};

transporter.sendMail(mailOptions, function(error, info){
 if (error) {
  console.log(error);
 } else {
  console.log('Email sent: ' + info.response);
 }
}); });
```

Welcome To My Web Page

Enter Your Email ID

Enter Your Password

Submit

[New User? Click here](#)

Welcome To My Web Page

Enter Your Name

Enter Your Email ID

Enter Your Password

Enter Your Phone Number

Submit

[Already have an account? Click here](#)

unknown@gmail.com

Welcome to My Home Page :)

logout

OUTPUT:-

Welcome To My Web Page

Enter Your Email ID

Enter Your Password

Submit

New User? Click here

PROGRAM:-

MainActivity.java

```java
import android.support.v7.app.AppCompatActivity; import android.os.Bundle;
import android.view.Menu; import android.view.MenuItem; import android.view.View; import
android.widget.Button; import android.widget.EditText;
public class MainActivity extends AppCompatActivity {

Button button0 , button1 , button2 , button3 , button4 , button5 , button6 , button7 , button8 ,
button9 , buttonAdd , buttonSub , buttonDivision , buttonMul , button10 , buttonC , buttonEqual ;
EditText edt1 ;
float mValueOne , mValueTwo ;
boolean mAddition , mSubtract ,mMultiplication ,mDivision ; @Override
protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
button0 = (Button) findViewById(R.id.button0); button1 = (Button) findViewById(R.id.button1);
button2 = (Button) findViewById(R.id.button2); button3 = (Button) findViewById(R.id.button3);
button4 = (Button) findViewById(R.id.button4); button5 = (Button) findViewById(R.id.button5);
button6 = (Button) findViewById(R.id.button6); button7 = (Button) findViewById(R.id.button7);
button8 = (Button) findViewById(R.id.button8); button9 = (Button) findViewById(R.id.button9);
button10 = (Button) findViewById(R.id.button10); buttonAdd = (Button)
findViewById(R.id.buttonadd); buttonSub = (Button) findViewById(R.id.buttonsub); buttonMul =
(Button) findViewById(R.id.buttonmul);
buttonDivision = (Button) findViewById(R.id.buttondiv); buttonC = (Button)
findViewById(R.id.buttonC); buttonEqual = (Button) findViewById(R.id.buttoneql); edt1 = (EditText)
findViewById(R.id.edt1); button1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) { edt1.setText(edt1.getText()+"1");
}
});
button2.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"2");
}});
button3.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"3");
}
});
button4.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"4");
}
});
button5.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"5");
}
});
button6.setOnClickListener(new View.OnClickListener() { @Override
```

```java
public void onClick(View v) { edt1.setText(edt1.getText()+"6");
}
});
button7.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"7");
}
});
button8.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"8");
}
});
button9.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"9");
}
});
button0.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+"0");
}
});
buttonAdd.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { if (edt1 == null){
edt1.setText("");
}else {
mValueOne = Float.parseFloat(edt1.getText() + ""); mAddition = true;
edt1.setText(null);
}
}
});
buttonSub.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {
mValueOne = Float.parseFloat(edt1.getText() + ""); mSubtract = true ;
edt1.setText(null);
}
});
buttonMul.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {
mValueOne = Float.parseFloat(edt1.getText() + ""); mMultiplication = true ;
edt1.setText(null);
}
});
buttonDivision.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) {
mValueOne = Float.parseFloat(edt1.getText()+""); mDivision = true ;
edt1.setText(null);
}
});
buttonEqual.setOnClickListener(new View.OnClickListener() { @Override
```

```java
public void onClick(View v) {
mValueTwo = Float.parseFloat(edt1.getText() + ""); if (mAddition == true){
edt1.setText(mValueOne + mValueTwo +""); mAddition=false;
}
if (mSubtract == true){ edt1.setText(mValueOne - mValueTwo+""); mSubtract=false;
}
if (mMultiplication == true){ edt1.setText(mValueOne * mValueTwo+"");
            mMultiplication=false;
}

if (mDivision == true){ edt1.setText(mValueOne / mValueTwo+""); mDivision=false;
}
}
});
buttonC.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText("");
}
});
button10.setOnClickListener(new View.OnClickListener() { @Override
public void onClick(View v) { edt1.setText(edt1.getText()+".");
}
});
}
}
```

activity_main.xml
```xml
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent" android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity" android:id="@+id/relative1">

<EditText android:layout_width="match_parent" android:layout_height="wrap_content"
android:id="@+id/edt1"/>

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
```

```xml
android:layout_height="wrap_content" android:text="1" android:id="@+id/button1"
android:layout_marginTop="94dp"

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent" android:layout_height="match_parent"
android:paddingLeft="@dimen/activity_horizontal_margin"
android:paddingRight="@dimen/activity_horizontal_margin"
android:paddingTop="@dimen/activity_vertical_margin"
android:paddingBottom="@dimen/activity_vertical_margin"
tools:context=".MainActivity" android:id="@+id/relative1">

<EditText android:layout_width="match_parent" android:layout_height="wrap_content"
android:id="@+id/edt1"/>


<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="1" android:id="@+id/button1"
android:layout_marginTop="94dp" android:layout_below="@+id/edt1"
android:layout_toStartOf="@+id/button4" android:layout_alignRight="@+id/button4"
android:layout_alignEnd="@+id/button4" />

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="2" android:id="@+id/button2"
android:layout_alignTop="@+id/button1" android:layout_toLeftOf="@+id/button3"
android:layout_toStartOf="@+id/button3" />

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content"



android:text="3" android:id="@+id/button3" android:layout_alignTop="@+id/button2"
android:layout_centerHorizontal="true" />

        <Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="4" android:id="@+id/button4"
android:layout_below="@+id/button1" android:layout_toLeftOf="@+id/button2" />

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="5" android:id="@+id/button5"
```

```xml
    android:layout_alignBottom="@+id/button4" android:layout_alignLeft="@+id/button2"
    android:layout_alignStart="@+id/button2" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="6" android:id="@+id/button6"
    android:layout_below="@+id/button3" android:layout_alignLeft="@+id/button3"
    android:layout_alignStart="@+id/button3" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="7" android:id="@+id/button7"
    android:layout_below="@+id/button4" android:layout_toLeftOf="@+id/button2" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="8" android:id="@+id/button8"
    android:layout_below="@+id/button5" android:layout_alignLeft="@+id/button5"
    android:layout_alignStart="@+id/button5" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="9" android:id="@+id/button9"
    android:layout_below="@+id/button6" android:layout_alignLeft="@+id/button6"
    android:layout_alignStart="@+id/button6" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="+" android:id="@+id/buttonadd"
    android:layout_alignTop="@+id/button3" android:layout_toRightOf="@+id/button3"
    android:layout_marginLeft="46dp" android:layout_marginStart="46dp"
    android:layout_alignRight="@+id/edt1" android:layout_alignEnd="@+id/edt1" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="-" android:id="@+id/buttonsub"
    android:layout_below="@+id/buttonadd" android:layout_alignLeft="@+id/buttonadd"
    android:layout_alignStart="@+id/buttonadd" android:layout_alignRight="@+id/buttonadd"
    android:layout_alignEnd="@+id/buttonadd" />

<Button
    style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="*" android:id="@+id/buttonmul"
    android:layout_below="@+id/buttonsub" android:layout_alignLeft="@+id/buttonsub"
    android:layout_alignStart="@+id/buttonsub" android:layout_alignParentRight="true"
    android:layout_alignParentEnd="true" />
```

```xml
<Button style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="." android:id="@+id/button10"
android:layout_below="@+id/button7" android:layout_toLeftOf="@+id/button2" />

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="0" android:id="@+id/button0"
android:layout_below="@+id/button8" android:layout_alignLeft="@+id/button8"
android:layout_alignStart="@+id/button8" />

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="C" android:id="@+id/buttonC"
android:layout_below="@+id/button9" android:layout_alignLeft="@+id/button9"
android:layout_alignStart="@+id/button9" />

<Button
style="?android:attr/buttonStyleSmall" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:text="/" android:id="@+id/buttondiv"
android:layout_below="@+id/buttonmul" android:layout_alignLeft="@+id/buttonmul"
android:layout_alignStart="@+id/buttonmul"
android:layout_alignRight="@+id/buttonmul" android:layout_alignEnd="@+id/buttonmul" />

<Button
android:layout_width="wrap_content" android:layout_height="wrap_content" android:text="="
android:id="@+id/buttoneql" android:layout_below="@+id/button0"
android:layout_marginTop="37dp" android:layout_alignRight="@+id/buttondiv"

android:layout_alignEnd="@+id/buttondiv" android:layout_alignLeft="@+id/button10"
android:layout_alignStart="@+id/button10" />

</RelativeLayout>
```
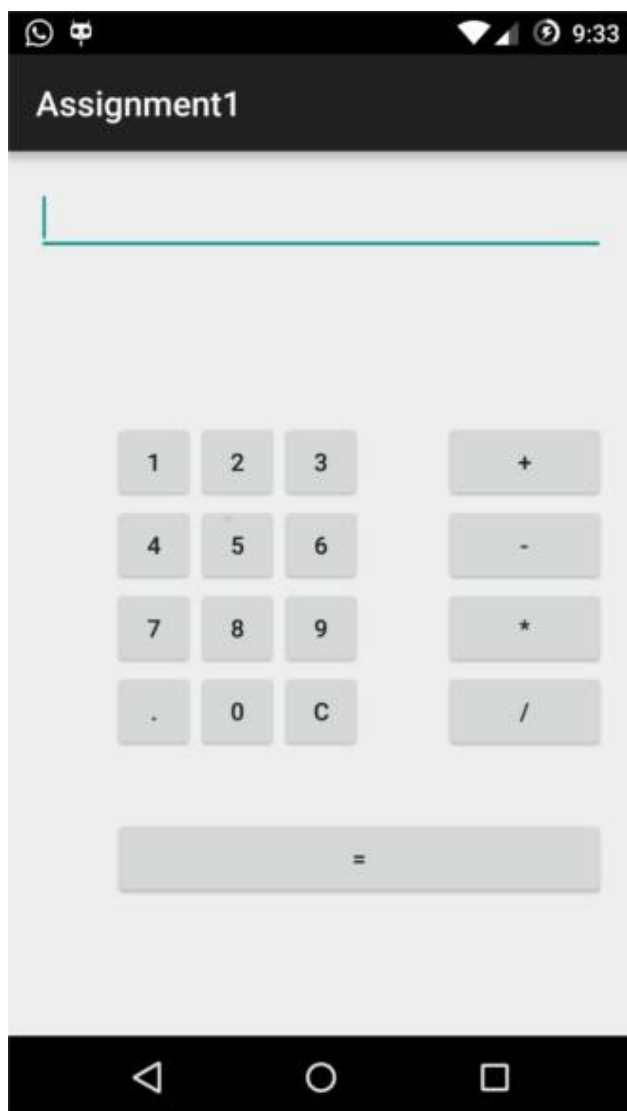
OUTPUT:-

PROGRAM:-

```swift
import UIKit

class ViewController: UIViewController { var numberOnScreen: Double = 0;
var previousNumber: Double = 0; var performingMath = false;
var operation = 0;
@IBAction func numbers(_ sender: UIButton) { if performingMath == true {
label.text = String(sender.tag-1) numberOnScreen = Double(label.text!)! performingMath = false
}
else {
label.text = label.text! + String(sender.tag-1) numberOnScreen = Double(label.text!)!
}
}
@IBOutlet weak var label: UILabel! @IBAction func buttons(_ sender: UIButton) {
if label.text != "" && sender.tag != 11 && sender.tag != 16{ previousNumber = Double(label.text!)!
if sender.tag == 12 { //Divide label.text = "/";
}
if sender.tag == 13 { //Multiply label.text = "x";
}
if sender.tag == 14 { //Subtract label.text = "-";
}
if sender.tag == 15 { //Add label.text = "+";
}
operation = sender.tag performingMath = true;
}
else if sender.tag == 16 { if operation == 12{ //Divide
label.text = String(previousNumber / numberOnScreen)
}
else if operation == 13{ //Multiply
label.text = String(previousNumber * numberOnScreen)
}
else if operation == 14{ //Subtract
label.text = String(previousNumber - numberOnScreen)
}
else if operation == 15{ //Add
label.text = String(previousNumber + numberOnScreen)
}
}
else if sender.tag == 11{ label.text = "" previousNumber = 0;
numberOnScreen = 0;
operation = 0;
}
}
override func viewDidLoad() { super.viewDidLoad()
// Do any additional setup after loading the view, typically from a nib.
}
```

override func didReceiveMemoryWarning() { super.didReceiveMemoryWarning()
// Dispose of any resources that can be recreated.
}
}

OUTPUT:-