Name: Jagtap Kalpana Santosh
Div : B 13

Bharati Vidyapeeth's

Institute of Management & Information Technology

C.B.D. Belapur, Navi Mumbai 400614

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CERTIFICATE

This is to certify that the journal is the work of Ms.Kalpana Santosh Jagtap Roll No. 13 of MCA (Sem- _1 Div:______B_) for the academic year 2020 - 2021
Subject Code:__MCAL14 Subject Name: Web Technology

Subject-in-charge Principal
Date: ____________

External Examiner Date:____________

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Bharati Vidyapeeth's Institute of Management & Information Technology
MCA Semester I AY 2020-21

MCAL14: Web Technologies

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- ## Nodejs Module

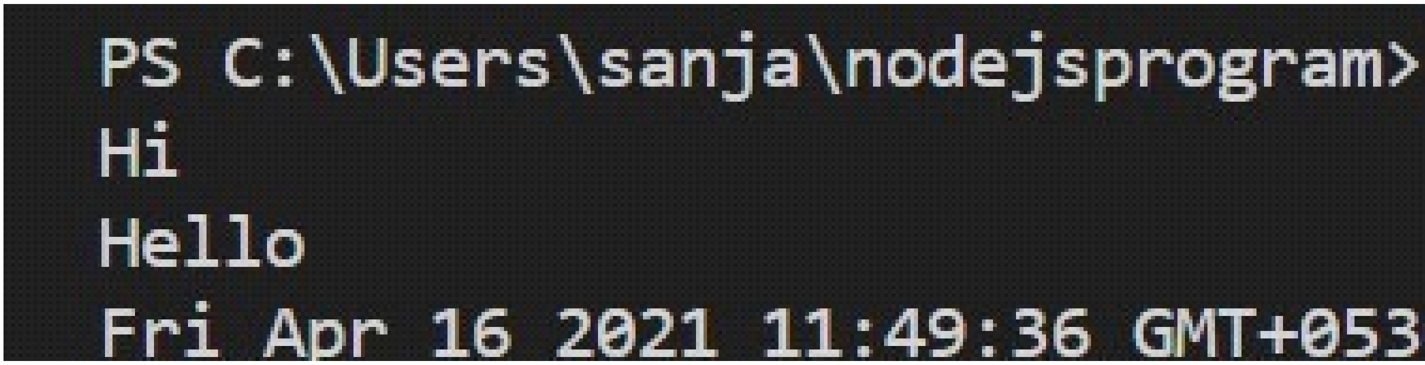
1.1 Create an application to demonstrate Node.js Modules.
Solution:
mymodule.js

```
exports.testFunc=function(){ console.log("Hello")
}
exports.curDate=function(){ return Date()
}
```

date1.js

```
const mymodule=require('./mymodule')
console.log("Hi")
mymodule.testFunc() var
today=mymodule.curDate();
console.log(today)
```

OUTPUT:



```
PS C:\Users\sanja\nodejsprogram>
Hi
Hello
Fri Apr 16 2021 11:49:36 GMT+053
```

- ## Events

- **Create an application to demonstrate various Node.js**

Events. Solution: even.js

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

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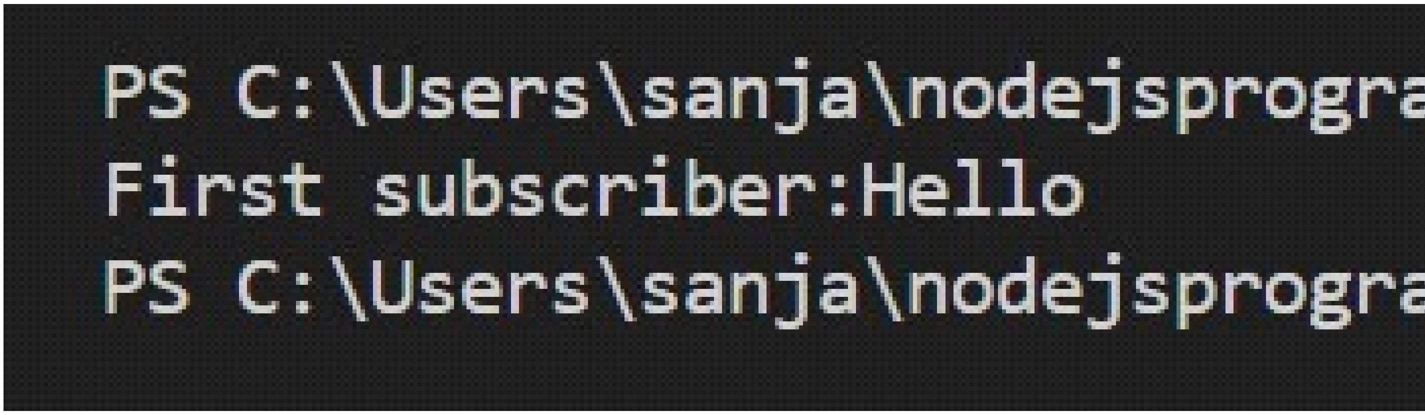
```
var      em=new      events.EventEmitter();
em.on('FirstEvent',function(data){
console.log('First subscriber:'+data);

});
em.emit('FirstEvent','Hello');
```

OUTPUT:



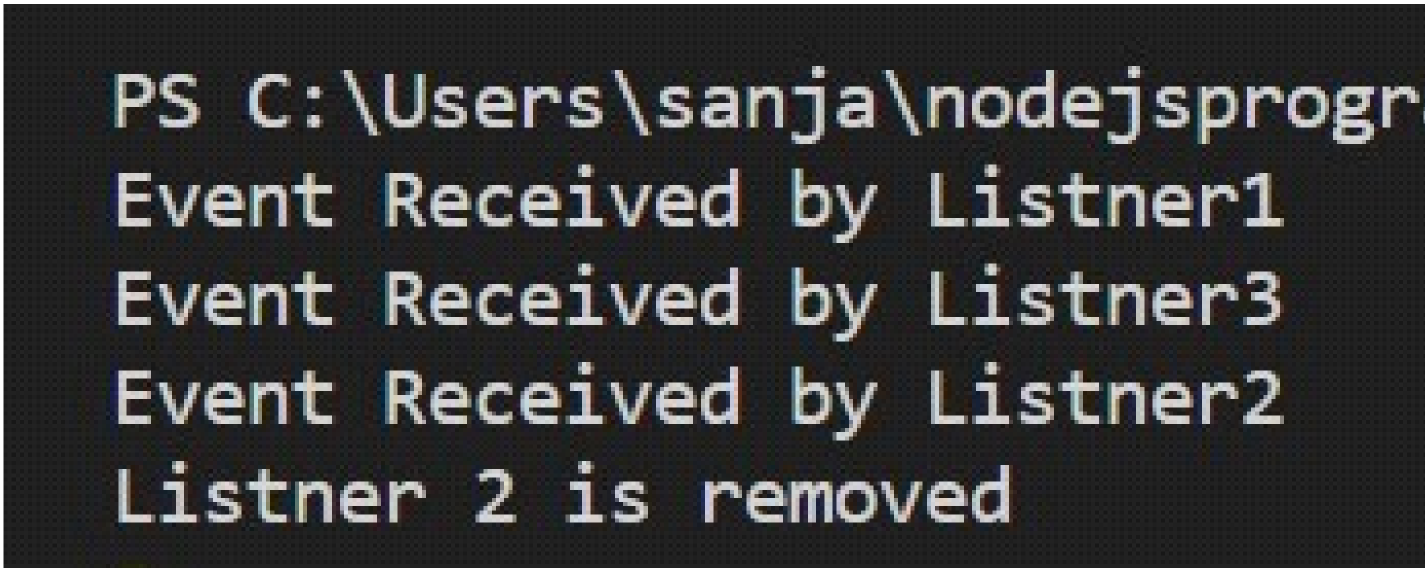
```
PS C:\Users\sanja\nodejsprogra
First subscriber:Hello
PS C:\Users\sanja\nodejsprogra
```

- **Implement all Methods of EventEmitter class. Solution:**

event2.js

```
const     events=require('events');     const
eventEmitter=new       events.EventEmitter();
function listner1()
{ console.log('Event Received by
 Listner1');
} function
listner2()
{ console.log('Event Received by
 Listner2');
} function
listner3()
{ console.log('Event Received by
 Listner3');
}
eventEmitter.addListener('write',listner1);
eventEmitter.addListener('write',listner3);
eventEmitter.on('write',listner2);
eventEmitter.emit('write');
eventEmitter.removeAllListeners('write',listner2); console.log('Listner 2
is removed'); console.log(eventEmitter.listenerCount('write'));
eventEmitter.emit('write');
console.log(eventEmitter.listenerCount('write')); console.log('Program
Ended');
```

OUTPUT:



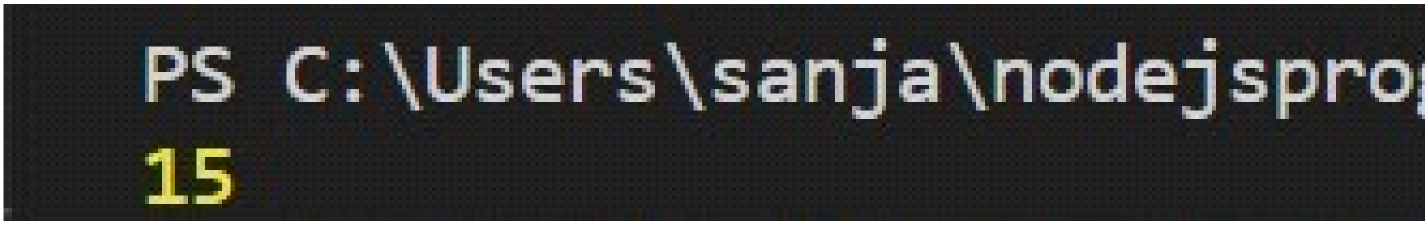
```
PS C:\Users\sanja\nodejsprogr
Event Received by Listner1
Event Received by Listner3
Event Received by Listner2
Listner 2 is removed
```

- **Create an application to demonstrate Node.js Functions**

Solution:

```
function add(x,y)
{ return x+y;
} result=add(5,10);
console.log(result);
```

OUTPUT:



```
PS C:\Users\sanja\nodejsprog
15
```

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3. File System and HTTP Server

3.1 Create an HTTP Server and perform operations on it.

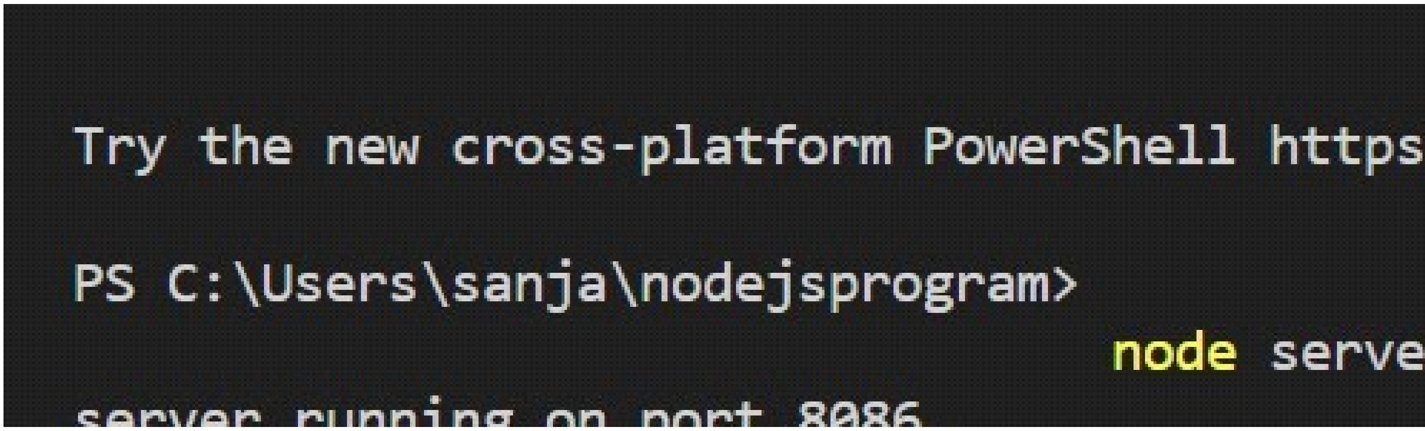
Solution:

server.js

```
var http=require('http'); const
server=http.createServer(function(req,res)
{ res.write('Hello World!!');
    res.end();

}) server.listen(8086);
console.log("server running on port
8086");
```

OUTPUT:



```
Try the new cross-platform PowerShell https

PS C:\Users\sanja\nodejsprogram>
                                  node serve
server running on port 8086
```

3.2 Using File Handling demonstrate all basic file operations (Create, write, read, delete)

Solution:

Creating file:

create.js

```
var fs=require('fs');
fs.writeFile('mynewfile.txt','Keep   Learning',function(err){   if(err)
throw err; console.log('Saved!');
});
```

OUTPUT:

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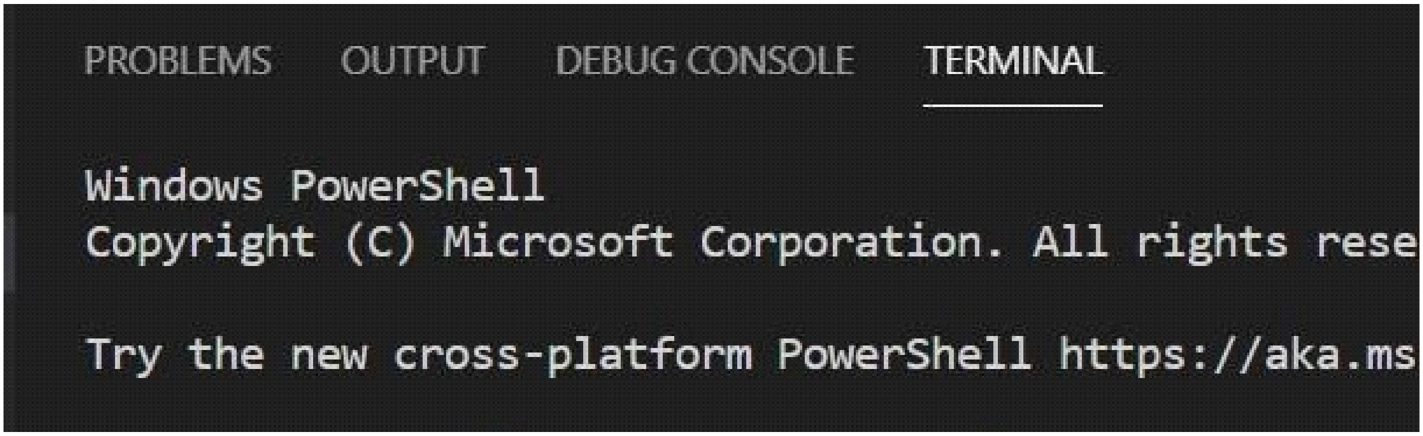
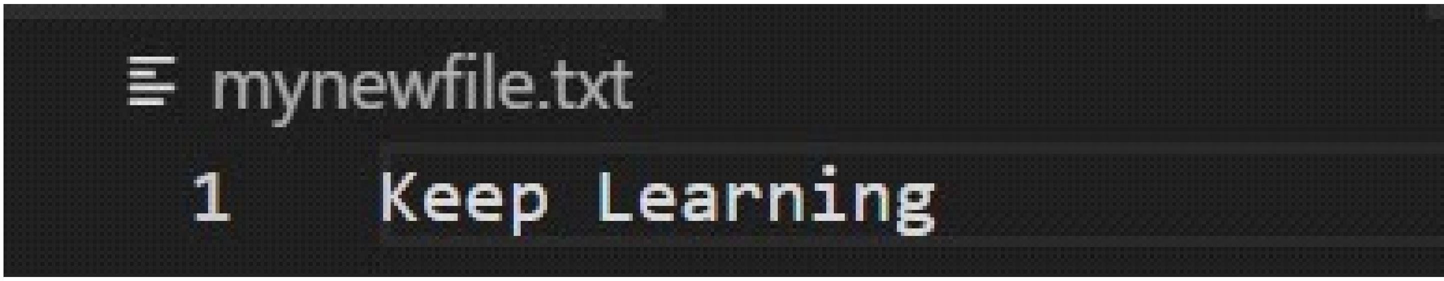


```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights rese

Try the new cross-platform PowerShell https://aka.ms
```

File Created

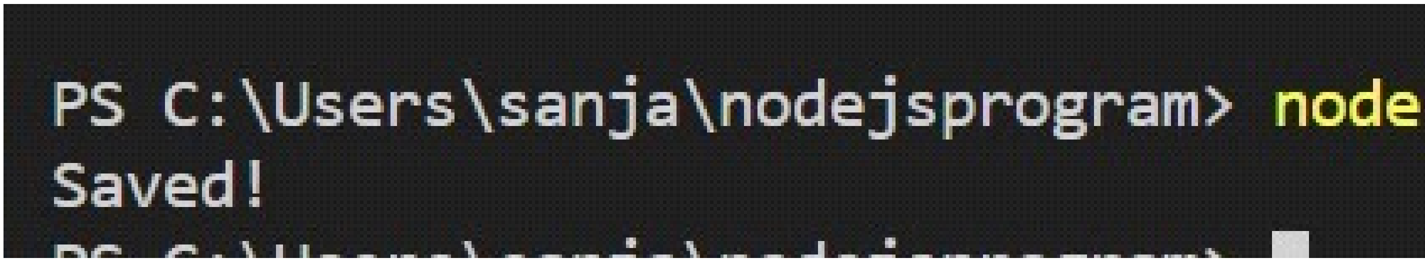


```
mynewfile.txt
1    Keep Learning
```

Writing File:
append.js

```
var    fs=require('fs');    fs.appendFile('mynewfile.txt','Hello
Everyone',function(err){        if(err)        throw        err;
console.log('Saved!'); });
```

OUTPUT:



```
PS C:\Users\sanja\nodejsprogram> node
Saved!
PS C:\Users\sanja\nodejsprogram>
```

File appended

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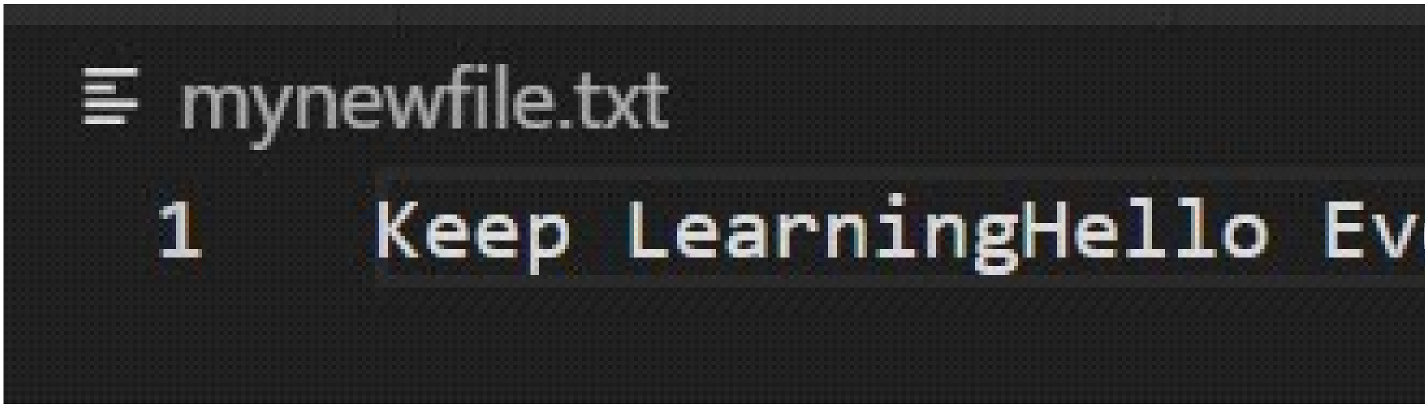


mynewfile.txt

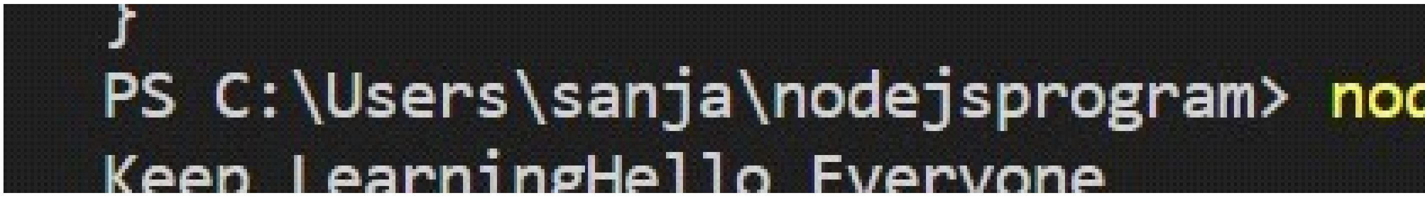
```
Keep LearningHello Ev
```

Reading File:

read.js

```
var fs=require('fs');
fs.readFile('mynewfile.txt','utf8'  ,function(err,data){  if(err)  throw
err; console.log(data);
});
```

OUTPUT:



```
}
PS C:\Users\sanja\nodejsprogram> noc
Keep LearningHello Everyone
```

Deleting File:

delete.js

```
var                                        fs=require('fs');
fs.unlink('mynewfile.txt',function(err){  if(err)  throw  err;
console.log('File Deleted!!');
});
```

OUTPUT:

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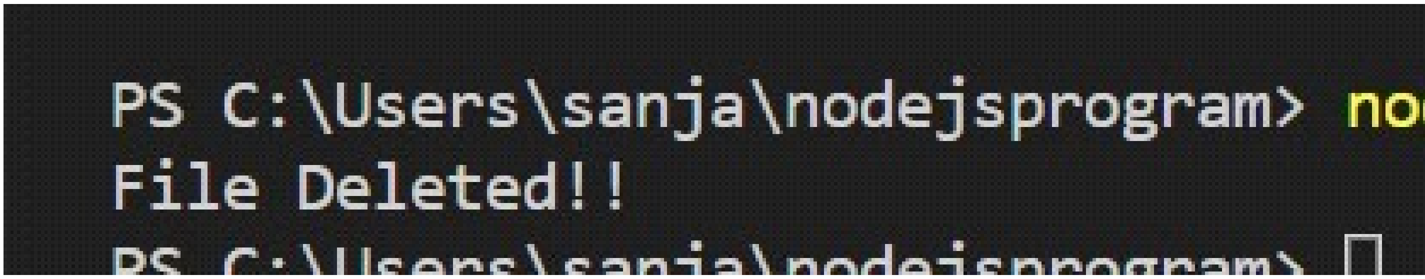


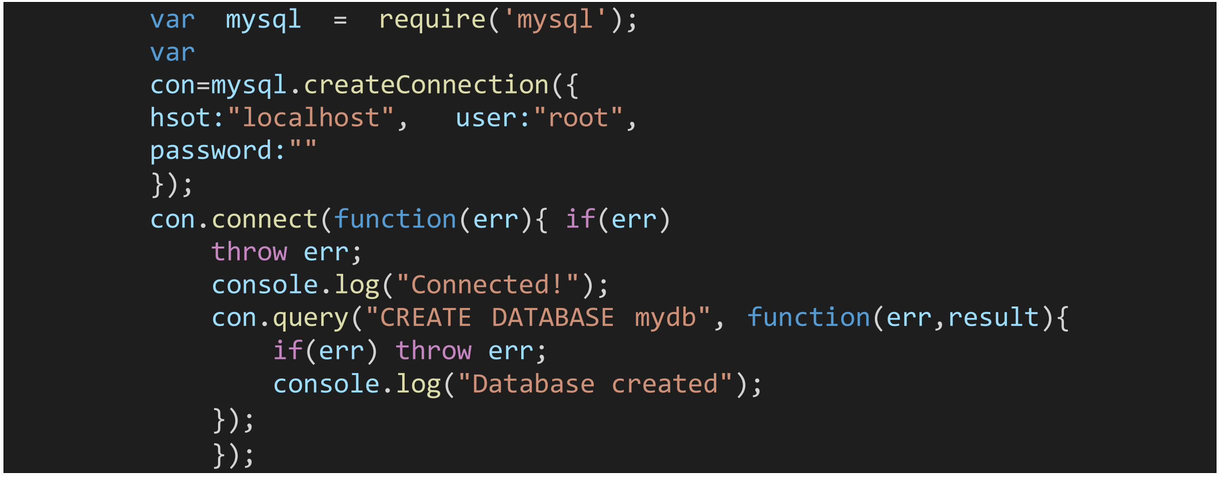
```
PS C:\Users\sanja\nodejsprogram> no
File Deleted!!
PS C:\Users\sanja\nodejsprogram> 
```

- <u>**MySQL database connectivity.**</u>

4.1 Create an application to establish a connection with the MySQL database and perform basic database operations on it.

Solution:

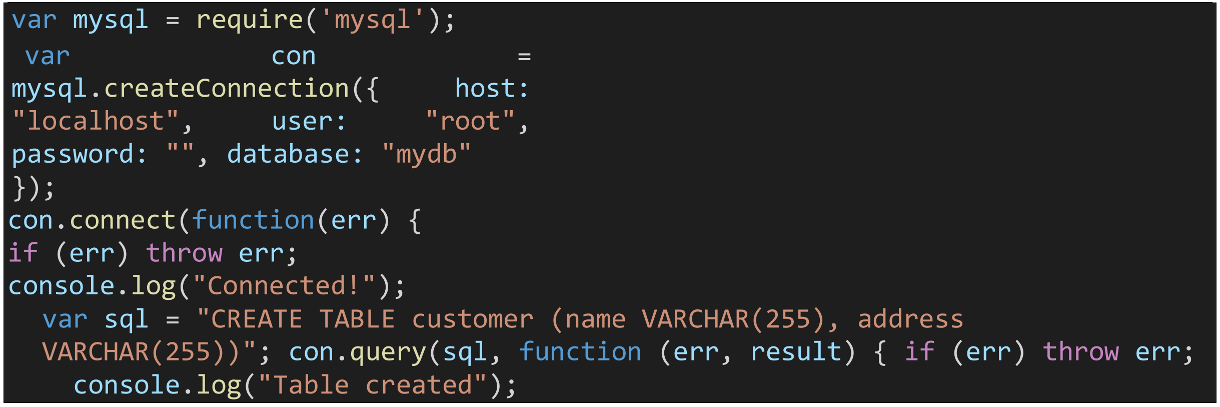
Create Database mydb <u>democonn.js</u>



```
var  mysql  =  require('mysql');
var
con=mysql.createConnection({
hsot:"localhost",   user:"root",
password:""
});
con.connect(function(err){ if(err)
    throw err;
    console.log("Connected!");
    con.query("CREATE DATABASE mydb", function(err,result){
        if(err) throw err;
        console.log("Database created");
    });
    });
```

OUTPUT:

Create Table customer <u>createtable.js</u>



```
var mysql = require('mysql');
 var            con            =
mysql.createConnection({    host:
"localhost",     user:     "root",
password: "", database: "mydb"
});
con.connect(function(err) {
if (err) throw err;
console.log("Connected!");
  var sql = "CREATE TABLE customer (name VARCHAR(255), address
  VARCHAR(255))"; con.query(sql, function (err, result) { if (err) throw err;
    console.log("Table created");
  });
});
```

OUTPUT:

Insert Data into Table insertin.js

```
var  mysql=require('mysql');  var
con=mysql.createConnection({
host:     "localhost",     user:
"root", password: "", database:
"mydb"
});
con.connect(function(err){ if
    (err) throw err;
    console.log("Connected!");
    var  sql="INSERT  INTO  customer  (name,address)  VALUES  ?";
    var values = [
        ['Uttkarsha', 'Sanpada 19'],
        ['Asmita', 'Koperkhairane 20'],
        ['Rutvik', 'Vashi 21'],
        ['Saanvi', 'Nerul 22'],
        ['Shanaya', 'Panvel 23'],
        ['Swara', 'Seawoods 24']
    ];
    con.query(sql,[values],function (err, result){ if
        (err) throw err;
        console.log("Number of records Inserted:" +result.affectedRows);
    }); });
```

OUTPUT:

Show Data From Table

select.js

```
var  mysql=require('mysql');  var
con=mysql.createConnection({
host:     "localhost",     user:
"root", password: "", database:
"mydb"
});
con.connect(function(err){
    if (err) throw err;
    con.query("SELECT    *    FROM    customer",    function    (err,
        result,fields){ if (err) throw err; console.log(result);
    }); });
```

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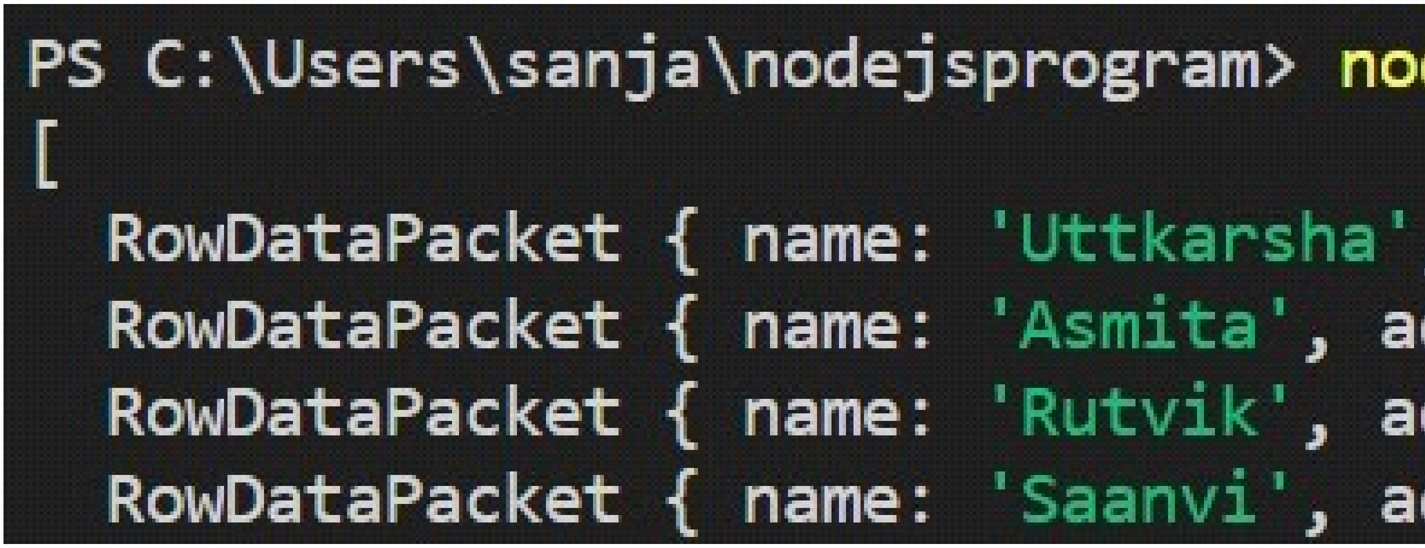
OUTPUT:



```
PS C:\Users\sanja\nodejsprogram> no
[
   RowDataPacket { name: 'Uttkarsha'
   RowDataPacket { name: 'Asmita', a
   RowDataPacket { name: 'Rutvik', a
   RowDataPacket { name: 'Saanvi', a
```

Alter Data alter.js

```
var mysql =require('mysql'); var
con = mysql.createConnection({
host:"localhost", user:"root",
password:"", database:"mydb"
});
con.connect(function(err){ if(err)
    throw err;
    console.log("connected");
     var sql="ALTER TABLE customer ADD COLUMN id INT AUTO_INCREMENT PRIMARY KE
Y";  con.query(sql,  function(err,result){
     if(err) throw err;
        console.log("Table
Altered"); }); });
```

OUTPUT:

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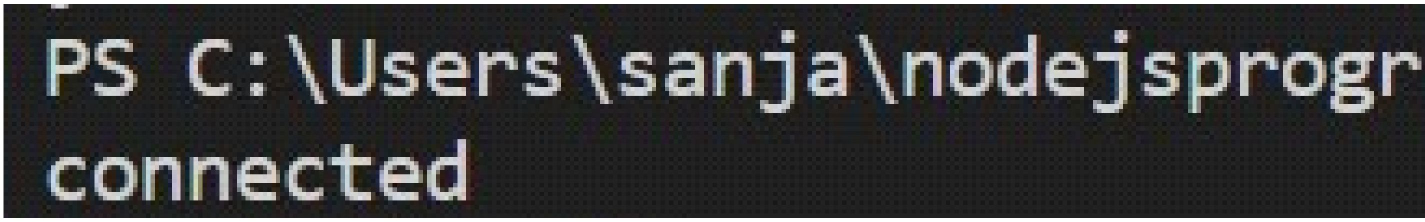
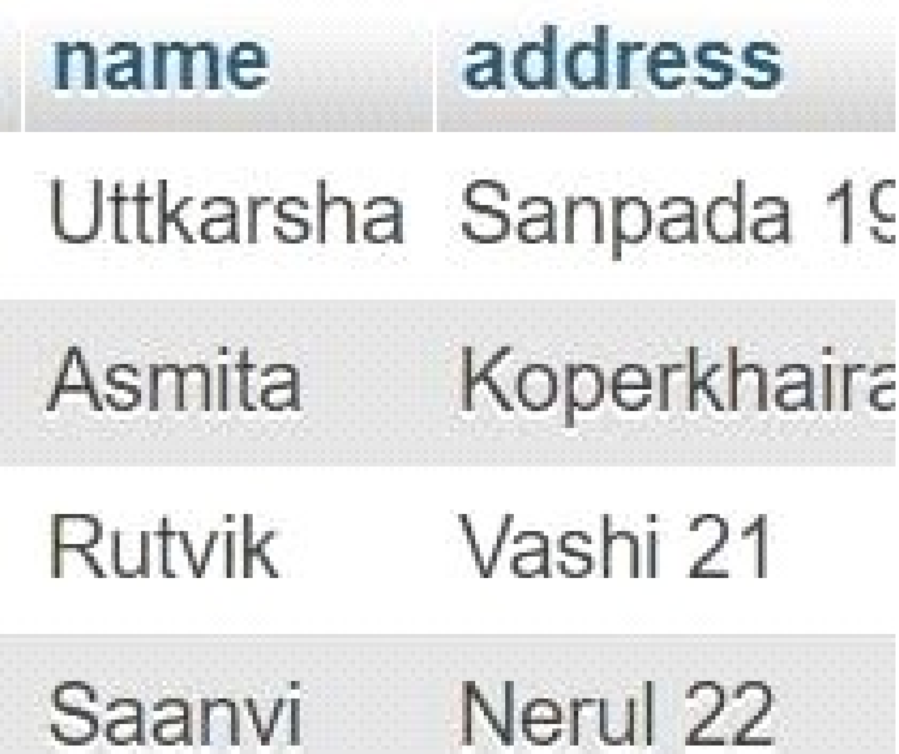
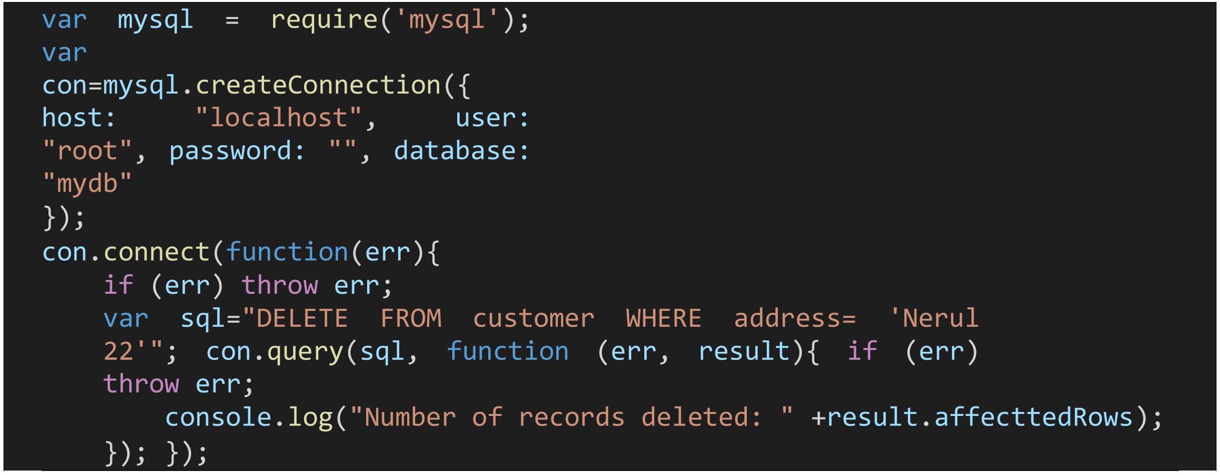


```
PS C:\Users\sanja\nodejsprogr
connected
```



name	address
Uttkarsha	Sanpada 1
Asmita	Koperkhair
Rutvik	Vashi 21
Saanvi	Nerul 22

Delete Records From Table **deleterecord.js**



```
var  mysql  =  require('mysql');
var
con=mysql.createConnection({
host:     "localhost",     user:
"root", password: "", database:
"mydb"
});
con.connect(function(err){
    if (err) throw err;
    var  sql="DELETE  FROM  customer  WHERE  address=  'Nerul
    22'"; con.query(sql, function  (err,  result){  if  (err)
    throw err;
        console.log("Number of records deleted: " +result.affecttedRows);
    }); });
```

OUTPUT:

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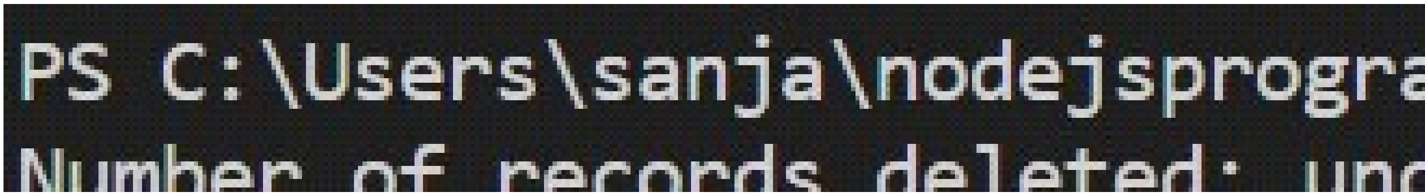
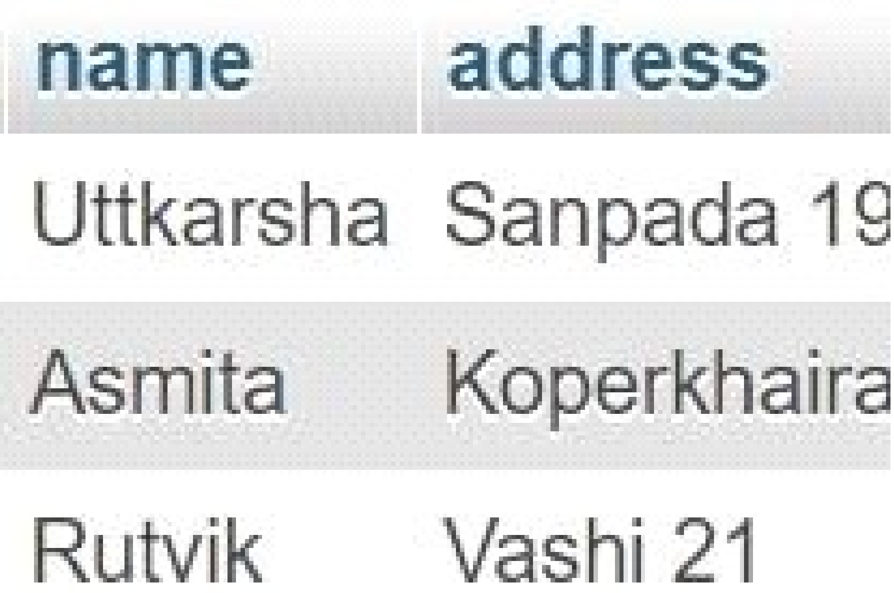


```
PS C:\Users\sanja\nodejsprogra
Number of records deleted: und
```



name	address
Uttkarsha	Sanpada 19
Asmita	Koperkhaira
Rutvik	Vashi 21

Update data **update.js**

```
var  mysql=require('mysql');  var
con=mysql.createConnection({
host:     "localhost",     user:
"root", password: "", database:
"mydb"
});
con.connect(function(err){
    if (err) throw err;
    var sql="UPDATE customer SET address= 'Kharghar 25' WHERE address='Vashi 2
1'"; con.query(sql, function (err,
    result){ if (err) throw err;
        console.log(result.affectedRows + "record(s) updated");
    }); });
```

OUTPUT:

Table:-newcustomer

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PrimaryKey1.js

```
var  mysql=require('mysql')  var
con=mysql.createConnection({
host:     "localhost",     user:
"root", password: "mydb"
});
con.connect(function(err){ if
    (err) throw err;
    console.log("Connected!");
    var sql= "CREATE TABLE customer (id INT AUTO_INCREMENT PRIMARY KEY, name V
ARCHAR(255),   address   VARCHAR(255))";
    con.query(sql, function(err,result){
    if(err) throw err;
        console.log("Table created");
}); });
```

OUTPUT:

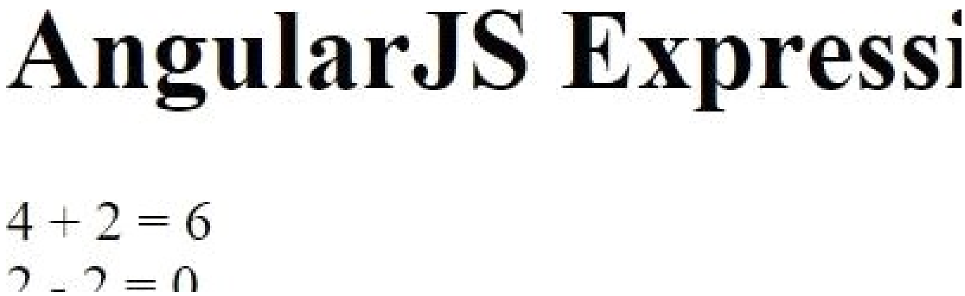
5. Angularjs

5.1 Write a program in angularJs of expression for operators and variables Solution:

```
<!DOCTYPE html>

<html >

<head>

  <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>

</head>

<body >

  <h1>AngularJS Expression Demo:</h1>

  <div ng-app>

    4 + 2 = {{4 + 2}} <br />

    2 - 2 = {{2 - 2}} <br />

    2 * 2 = {{2 * 2}} <br />

    2 / 2 = {{2 / 2}}

  </div>

</body>
```

```
</html>
```

OUTPUT:



AngularJS Expressi

4 + 2 = 6
2 - 2 = 0

Write a program in angularJs of expression contains any two data type.

Solution:

```
<html >
<head>
   <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body >
   <h1>AngularJS Expression Demo:</h1>
   <div ng-app>
      {{"Hello World"}}<br />
      {{100}}<br /> {{true}}<br />
      {{10.2}}
   </div>
</body>
</html>
```

OUTPUT:

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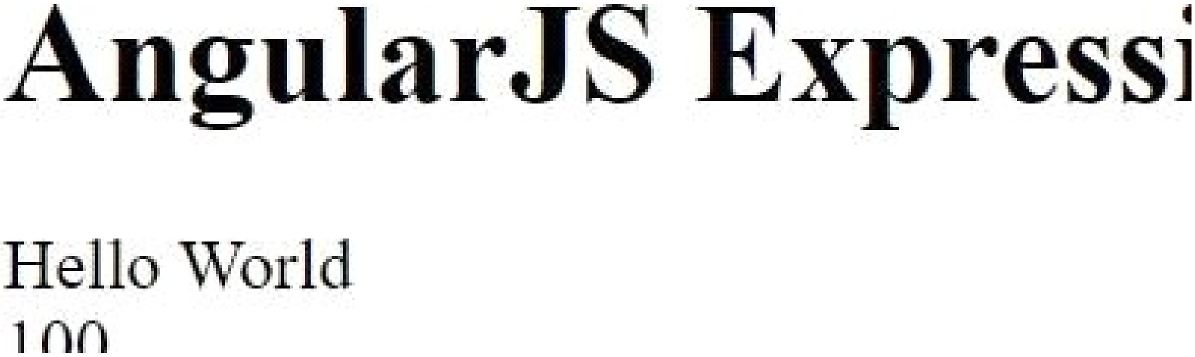
Div : B 13



AngularJS Expressi

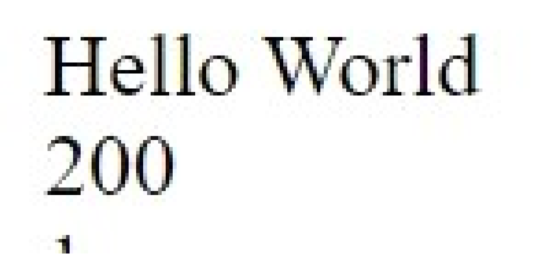
Hello World
100

of expression for arithmetic operators which will produce the result based on the type of operands.

Solution:

```
<!DOCTYPE html>
<html >
<head>
   <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body >
   <div ng-app>
      {{"Hello" + " World"}}<br />
      {{100 + 100 }}<br />
      {{true + false}}<br />
      {{10.2 + 10.2}}<br />
   </div>
</body>
</html>
```

OUTPUT:



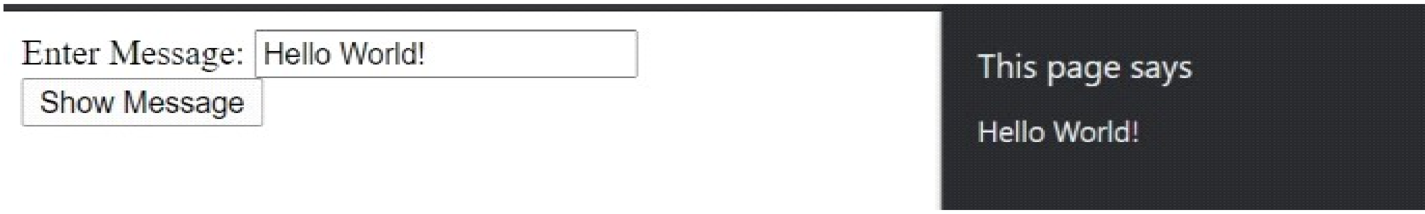
```
Hello World
200
1
```

Write a program in angularJs which demonstrates handling click event of a button

Solution:

```
<!DOCTYPE html>
<html>
<head>
  <title>AngualrJS Controller</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app="myNgApp">
  <div ng-controller="myController">
    Enter Message: <input type="text" ng-model="message" /> <br />
    <button ng-click="showMsg(message)">Show Message</button>
  </div>
  <script>   var   ngApp   =   angular.module('myNgApp',   []);
    ngApp.controller('myController', function ($scope) {
      $scope.message = "Hello World!";
      $scope.showMsg = function (msg) { alert(msg);
      };
    });
  </script></body>
</html>
```

OUTPUT:



Enter Message: Hello World!

This page says

Hello World!

for scope object where controller available to the HTML elements and its child elements.

Solution:

```
<!DOCTYPE html>
<html>
<head>
  <title>AngualrJS Controller</title>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app="myNgApp">
  <div ng-controller="parentController">
    Controller Name: {{controllerName}} <br />
    Message: {{message}} <br />
    <div style="margin:10px 0 10px 20px;" ng-controller="childController">
      Controller Name: {{controllerName}} <br />
      Message: {{message}} <br />
    </div>
  </div>
  <div ng-controller="siblingController">
    Controller Name: {{controllerName}} <br />
    Message: {{message}} <br />
  </div>
  <script> var ngApp = angular.module('myNgApp', []);
ngApp.controller('parentController', function ($scope, $rootScope) {
      $scope.controllerName = "parentController";
      $rootScope.message = "Uttkarsha Kadam!";
```

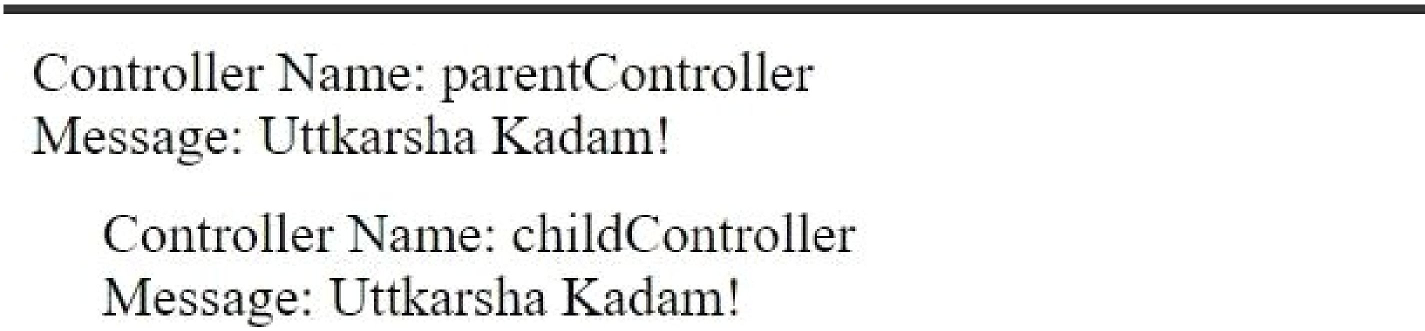
```
        });
 ngApp.controller('childController', function ($scope) {
            $scope.controllerName = "childController";


        });

                                       ngApp.controller('siblingController', function ($scope) {

        });
    </script>
</body>
</html>
```

OUTPUT:



```
Controller Name: parentController
Message: Uttkarsha Kadam!

    Controller Name: childController
    Message: Uttkarsha Kadam!
```

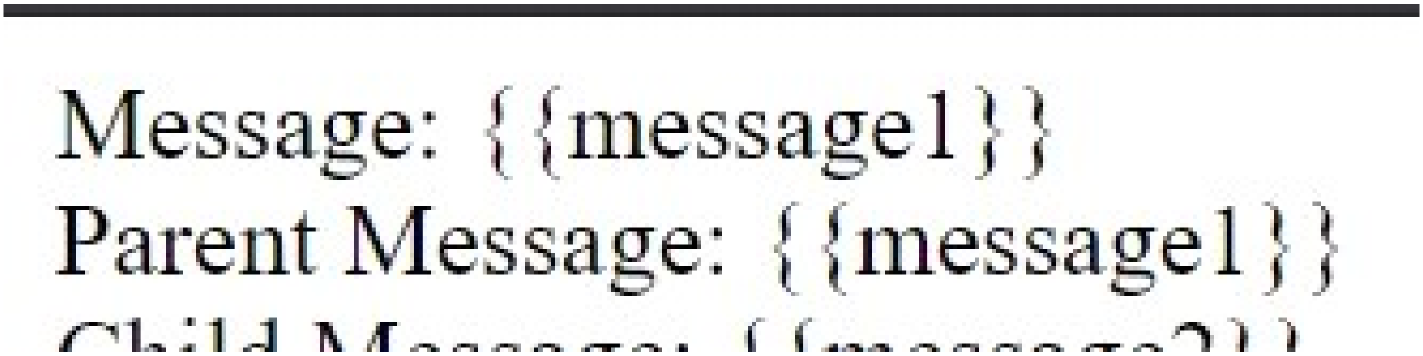
5.6 demonstrates multiple controllers.

Solution:

```
<!DOCTYPE html>
<html>
<head>
    <title>AngualrJS Controller</title>
    <script src="~/Scripts/angular.js"></script>
</head>
<body ng-app="myNgApp">
    <div ng-controller="parentController"> Message: {{message1}}
```

```
        <div ng-controller="childController">
           Parent Message: {{message1}} </br>
           Child Message: {{message2}} </div>
        Child Message: {{message2}}
    </div>
    <script> var ngApp = angular.module('myNgApp', []);
ngApp.controller('parentController', function ($scope) { $scope.message1 = "This is
        parentController";
        });
        ngApp.controller('childController', function ($scope) { $scope.message2 =
        "This is childController"; });
    </script>
</body>
</html>
```

OUTPUT:



```
Message: {{message1}}
Parent Message: {{message1}}
Child Message: {{message2}}
```

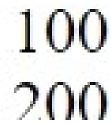
5.7 Write a program in angularJs to demonstrates ng-init directive for string, number, array, and object.

Solution: **<u>ng-init</u>**

```
<!DOCTYPE html>
<html>
<head>
```

```
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body>
<div ng-app ng-init="greet='Hello World!'; amount= 100; myArr = [100, 200]; person = {
firstName:'Uttkarsha', lastName :'Kadam'}"> {{amount}}            <br />
      {{myArr[1]}}    <br />
      {{person.firstName}}
   </div>
</body>
</html>
```

OUTPUT:



```
100
200
```

5.8 Write a program in angularJs to demonstrates ng-if, ng-readonly, and ng-disabled directives. Solution:

```
<!DOCTYPE html>
<html>
<head>
   <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
   <style> div {
         width: 100%; height: 50px;
         display:   block;   margin:
         15px 0 0 10px;

      }
   </style>
</head>
<body ng-app ng-init="checked=true" >
```

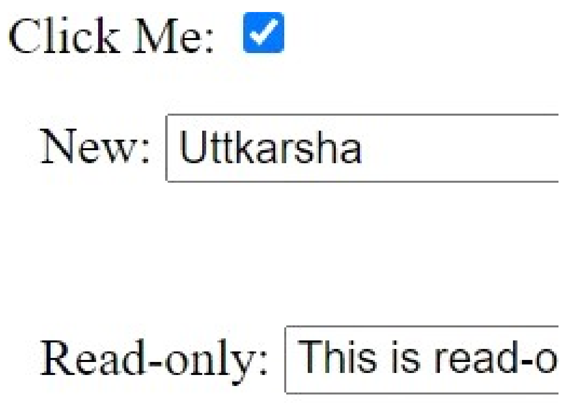
```
    Click Me: <input type="checkbox" ng-model="checked" /> <br />
    <div>
      New: <input ng-if="checked" type="text" />
    </div> <div>

          Read-only: <input ng-readonly="checked" type="text" value="This is read-only." />
    </div>
    <div>
      Disabled: <input ng-disabled="checked" type="text" value="This is disabled." />

   </div>
</body>
</html>
```

OUTPUT:

When click me is Checked:

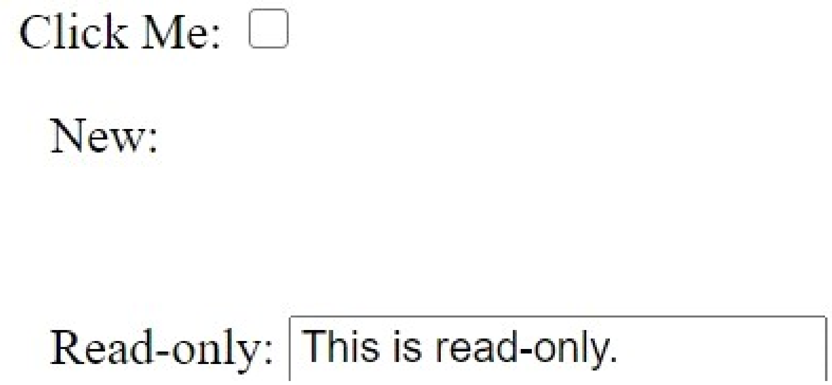


Click Me: ☑

New: Uttkarsha

Read-only: This is read-o

When Click me is not checked:



Click Me: □

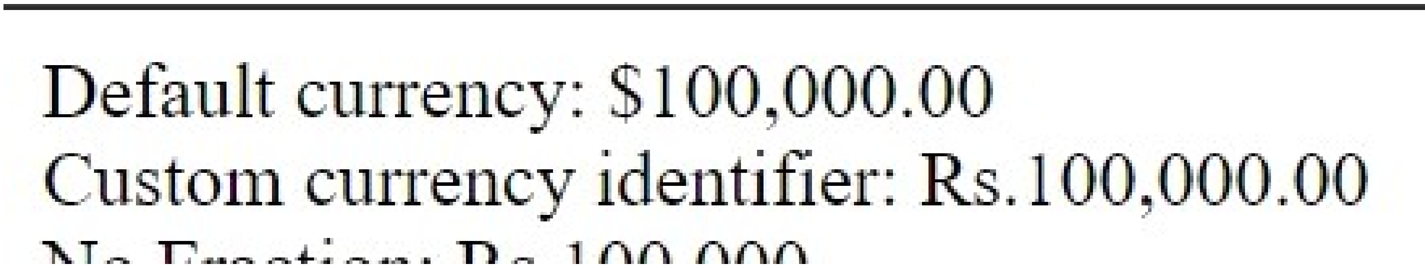
New:

Read-only: This is read-only.

Write a program in angularJs for currency filter to person salary. Solution:

```
<!DOCTYPE html>
<html >
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app="myApp">
  <div ng-controller="myController">
    Default currency: {{person.salary | currency}} <br />
    Custom currency identifier: {{person.salary | currency:'Rs.'}} <br />
    No Fraction: {{person.salary | currency:'Rs.':0}} <br />
    Fraction 2: <span ng-bind="person.salary| currency:'GBP':2"></span>
  </div><script> var myApp = angular.module('myApp', []);
    myApp.controller("myController", function ($scope) {
        $scope.person = { firstName: 'Uttkarsha', lastName: 'Kadam', salary: 100000}
    });
  </script>
</body>
</html>
```

OUTPUT:

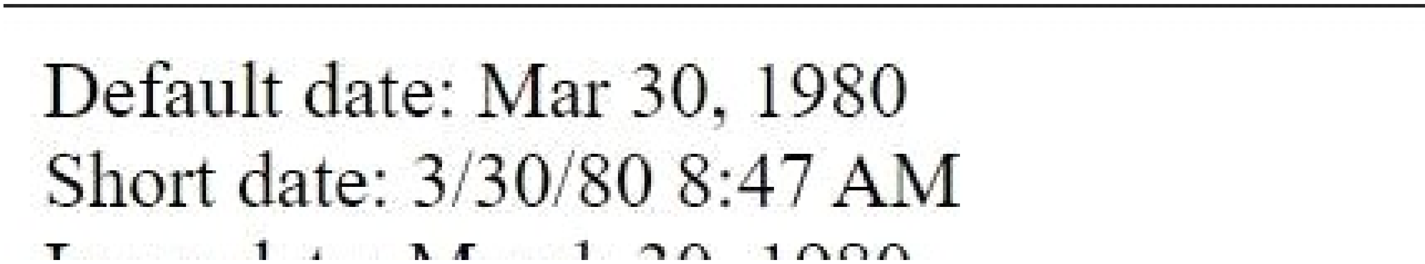


```
Default currency: $100,000.00
Custom currency identifier: Rs.100,000.00
No Fraction: Rs.100,000
```

Write a program in angularJs demonstrates Date filter Solution:

```
<!DOCTYPE html>
<html >
<head>
  <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app>
  <div ng-init="person.DOB = 323234234898">
    Default date: {{person.DOB| date}} <br />
    Short date: {{person.DOB| date:'short'}} <br />
    Long date: {{person.DOB | date:'longDate'}} <br />
    Year: {{person.DOB | date:'yyyy'}} <br />
  </div>
</body>
</html>
```

OUTPUT:



```
Default date: Mar 30, 1980
Short date: 3/30/80 8:47 AM
Long date: March 30, 1980
```

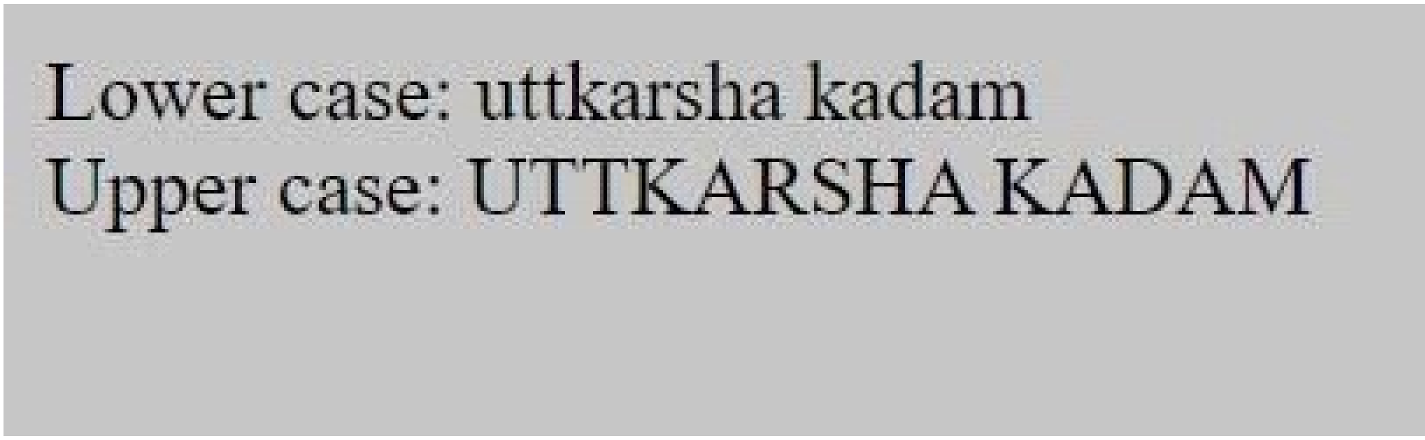
Write a program in angularJs upper case and lowercase filter.

Solution:

```
<!DOCTYPE html>
```

```
<html >
<head>
   <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
</head>
<body ng-app>
<body style="background-color:silver">
   <div ng-init="person.firstName='Uttkarsha';person.lastName='Kadam'">
      Lower case: {{person.firstName + ' ' + person.lastName | lowercase}} <br />
      Upper case: {{person.firstName + ' ' + person.lastName | uppercase}} </div>
</body>
</html>
```

OUTPUT:



```
Lower case: uttkarsha kadam
Upper case: UTTKARSHA KADAM
```

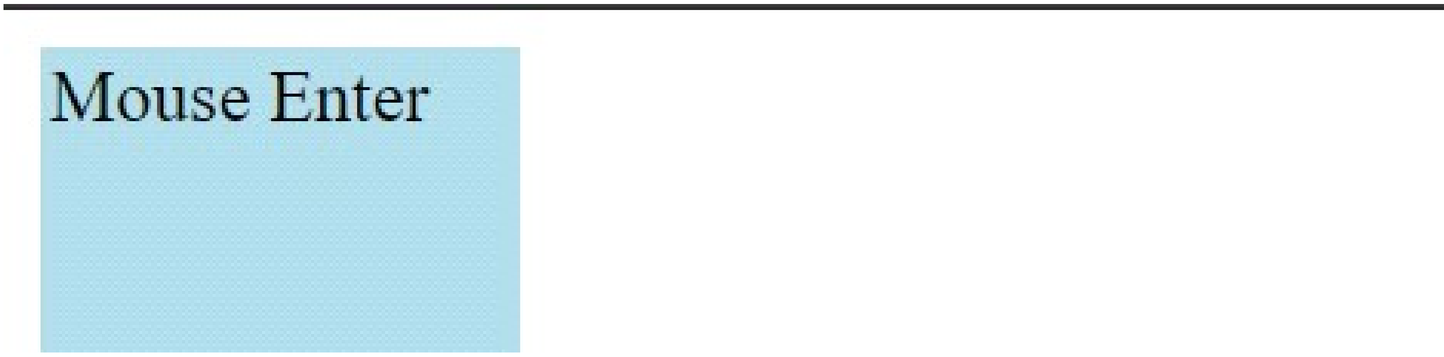
Write a program in angularJs to demonstrates mouse event.

Solution:

```
<!DOCTYPE html>
<html>
<head>
   <script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.8.2/angular.min.js"></script>
   <style>
```

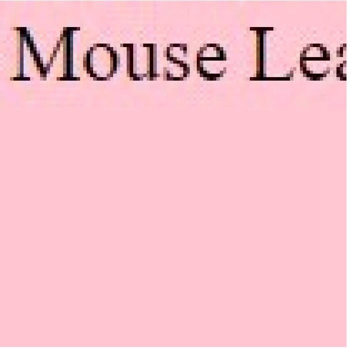
```
        .lightblueDiv   {   width:   100px;
           height:   100px;   background-
           color:  lightblue;  padding:2px
           2px 2px 2px;
        }
        .pinkDiv    {    width:    100px;
           height:  100px;  background-
           color:    pink;    padding:2px
           2px 2px 2px;
        }
    </style>
</head>
<body ng-app>
        <div          ng-class="{lightblueDiv:          enter,          pinkDiv:          leave}"          ng-
mouseenter="enter=true;leave=false;" ng-mouseleave="leave=true;enter=false">
              Mouse <span ng-show="enter">Enter</span> <span ng-show="leave">Leave</span>
        </div>
</body>
</html>
```

OUTPUT:



```
Mouse Enter
```

Name: Jagtap Kalpana Santosh
Div : B 13



Mouse Lea