1) **AIM:** write an XML file which will display the book information which includes the following:

1 Title of the book
2 Author name
3 Publisher Name
4 Editions
5 Price

Write a Document Type Definition (DTD) to validate the above XML file.

PROGRAM:

Ex1.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<?DOCTYPE catalogue SYSTEM "book.dtd"?>
<catalogue>
<book>
<title>c</title>
<author>Balaguruswamy</author>
<isbn>1234</isbn>
<publisher>pearson</publisher>
<edition>4</edition>
<price>$50</price>
</book>
<book>
<title>c++</title>
<author>Balaguruswamy</author>
<isbn>123</isbn>
<publisher>pearson</publisher>
<edition>3</edition>
<price>$55</price>
</book>
<book>
<title>java</title>
<author>Brett spell</author>
<isbn>12</isbn>
<publisher>Apress</publisher>
<edition>2</edition>
<price>$45</price>
</book>
</catalogue>
```

Document Type Definition (DTD) to validate the above XML file

Dtd file: book.dtd

<!ELEMENT catalogue (book)*>

<!ELEMENT book (title,author,isbn,publisher,edition,price)>

<!ELEMENT title (#PCDATA)>

<!ELEMENT author (#PCDATA)>

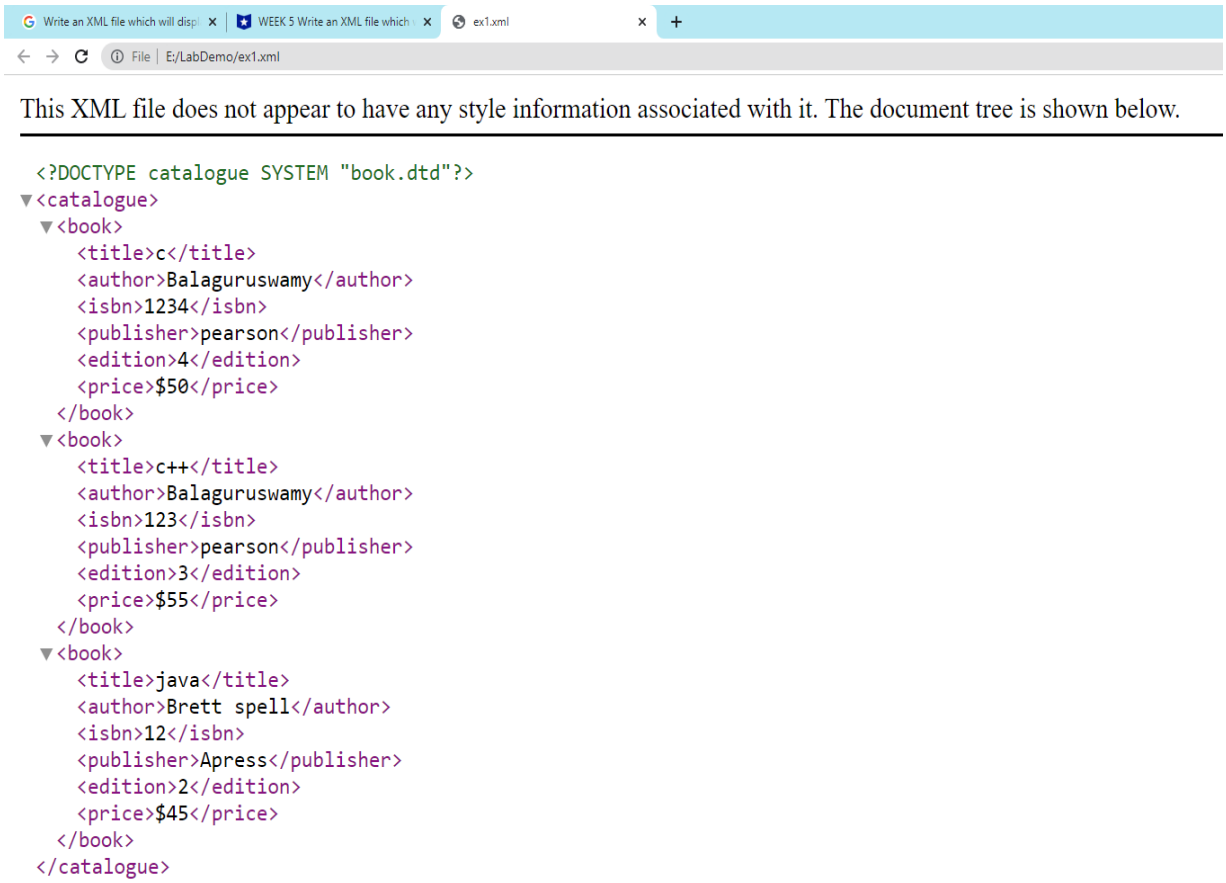
<!ELEMENT isbn (#PCDATA)>

<!ELEMENT publisher (#PCDATA)>

<!ELEMENT edition (#PCDATA)>

<!ELEMENT price (#PCDATA)>

Output:



2. Write a PHP programs that uses arrays and functions in PHP.

Array in PHP

- An array stores multiple values in one single variable
- In PHP, there are three kinds of arrays:
  - Numeric array
  - Associative array
  - Multidimensional array

Numeric Array in PHP

Numeric array is an array with a numeric index

Numeric Array Example

```
<html>
    <body>
        <?php
            $flower_shop = array ("rose", "daisy","orchid");echo "Flowers: ".$flower_shop[0].",".$flower_shop[1].", ".$flower_shop[2].".";
        ?>
    </body>
</html>
```

OUTPUT:

Flowers: rose, daisy, orchid

Associative array in PHP

Associative array is an array where each ID key is associated with a value

Associative array Example

```
<html>
    <body>
        <?php
            $flower_shop = array ( "rose" => "5.00", "daisy" => "4.00", "orchid"
              => "2.00" );
            // Display the array values
            echo "rose costs" .$flower_shop['rose'].",daisy costs
            ".$flower_shop['daisy'].",and orchild
            costs ".$flower_shop['orchild'].".";
        ?>
    </body>
</html>
```

OUTPUT:

rose costs 5.00,daisy costs 4.00,and orchild costs

Loop through an Associative Array

```
<html>
    <body>
        <?php
            $flower_shop=array("rose"=>"5.00",
            "daisy"=>"4.00","orchid"=>"2.00");
            foreach($flower_shop as $x=>$x_value) {
            echo "Flower=" . $x . ", Value=" . $x_value;
            echo "<br>";
            }
        ?>
    </body>
</html>
```

OUTPUT:

Flower=rose, Value=5.00

Flower=daisy, Value=4.00

Flower=orchid, Value=2.00

Multidimensional array in PHP

Multidimensional array is an array containing one or more arrays

Multidimensional array Example

```
<html>
    <body>
        <?php
            $flower_shop = array(
             "rose" => array( "5.00", "7 items", "red" ),
            "daisy" => array( "4.00", "3 items", "blue" ),
            "orchid" => array( "2.00", "1 item", "white" ),
             );
            echo "rose costs ".$flower_shop['rose'][0].
            ", and you get ".$flower_shop['rose'][1].".<br>";
             echo "daisy costs ".$flower_shop['daisy'][0].
             ", and you get ".$flower_shop['daisy'][1].".<br>";
             echo "orchid costs ".$flower_shop['orchid'][0].
             ", and you get ".$flower_shop['orchid'][1].".<br>";
        ?>
    </body>
</html>
```

OUTPUT:

rose costs 5.00, and you get 7 items.

daisy costs 4.00, and you get 3 items.

orchid costs 2.00, and you get 1 item.

User Defined Function in PHP

Functions are group of statements that can perform a task

Syntax:

```
function functionName()
{
code to be executed;
}
```

User Defined Function Example

```
<html>
    <body>
        <?php
            // Function definition
            function myFunction()
            {
                echo "Hello world";
            }
            // Function call
            myFunction();
        ?>
    </body>
</html>
```

OUTPUT:

Hello world

Swap Numbers PHP Example

```
<html>
    <body>
        <?php
            $num1=10;
            $num2=20;
            echo "Numbers before swapping:<br/>";
            echo "Num1=".$num1;
            echo "<br/>Num2=".$num2;
            // Function call
             swap($num1,$num2);
            // Function definition
            function swap($n1,$n2)
            {
                $temp=$n1;
                $n1=$n2;
                $n2=$temp;
                echo "<br/><br/>Numbers after
                 swapping:<br/>";
                echo "Num1=".$n1;
                echo "<br/>Num2=".$n2;
            }
        ?>
    </body>
</html>
```

OUTPUT:

Numbers before swapping:

Num1=10

Num2=20

Numbers after swapping:

Num1=20

Num2=10

PHP Functions - Adding parameters

```
<html>
    <body>
        <?php
            // Function definition
            function writeName($fname)
            {
            echo $fname . " Refsnes.<br />";
            }
            echo "My name is ";
            writeName("Kai Jim"); //Function call
            echo "My sister's name is ";
            writeName("Hege"); // Function call
            echo "My brother's name is ";
            writeName("Stale"); // Function call
        ?>
    </body>
</html>
```

OUTPUT:

My name is Kai Jim Refsnes.

My sister's name is Hege Refsnes.

My brother's name is Stale Refsnes.

PHP Functions - Return values

```
<html>
    <body>
        <?php
            // Function definition
            function add($x,$y)
            {
                $total=$x+$y;
                return $total;
            }
             // Function call
            echo "1 + 16 = " . add(1,16);
        ?>
    </body>
</html>
```

OUTPUT:

1 + 16 = 17

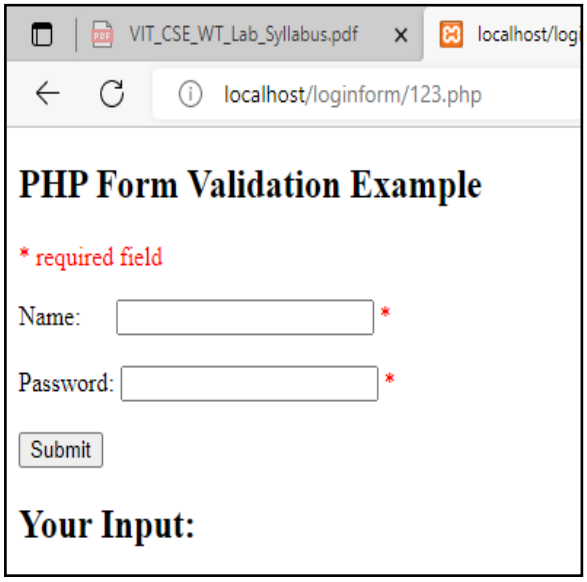
3) Write a PHP program for creating login form and validate users.

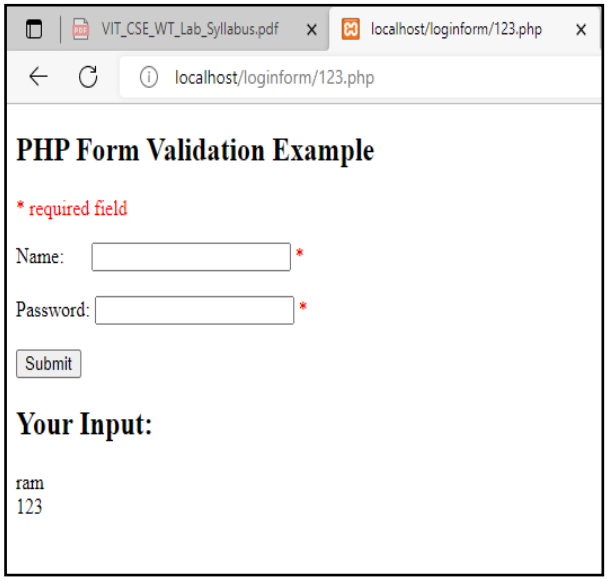
Aim: To write a PHP program for creating login form and validate users.

```
<!DOCTYPE HTML>
<html>
<head>
<style>
.error {color: #FF0000;}
</style>
</head>
<body>
<?php
// define variables and set to empty values
$nameErr = $passErr =  "";
$name = $password =  "";
if ($_SERVER["REQUEST_METHOD"] == "POST") {
  if (empty($_POST["name"])) {
    $nameErr = "Name is required";
  } else {
    $name = test_input($_POST["name"]);
  }
    if (empty($_POST["password"])) {
    $passErr = "Password is required";
  } else {
    $pass = test_input($_POST["password"]);
  }
    }
function test_input($data) {
  $data = trim($data);
  $data = stripslashes($data);
  $data = htmlspecialchars($data);
  return $data;
}
?>
<h2>PHP Form Validation Example</h2>
<p><span class="error">* required field</span></p>
```

```
<form method="post" action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]);?>">
    Name: <input type="text" name="name">
    <span class="error">* <?php echo $nameErr;?></span>
    <br><br>
   Password: <input type="text" name="password">
    <span class="error">* <?php echo $passErr;?></span>
    <br><br>
      <input type="submit" name="submit" value="Submit">
  </form>
  <?php
  echo "<h2>Your Input:</h2>";
  echo $name;
  echo "<br>";
  echo $pass;
  echo "<br>";
  ?>
  </body>
  </html>
```

OUTPUT:





4) Write a PHP program for display all students in CSE using mysql student table.

studentinfo.php

```
<?php
 $user = 'root';
$password = 'root';
$database = 'info';
 $servername='localhost:3306';
$mysqli = new mysqli($servername, $user,$password, $database);
 if ($mysqli->connect_error) {
   die('Connect Error (' . $mysqli->connect_errno . ') '.  $mysqli->connect_error);
}
?>
<!DOCTYPE html>
<html lang="en">
 <head>
   <title>CSE Student Details</title>
   <style>
      table {
         margin: 0 auto;
         font-size: large;
         border: 1px solid black;
      }
       h1 {
         text-align: center;
         color: #006600;
         font-size: xx-large;
         font-family: 'Gill Sans', 'Gill Sans MT',
         ' Calibri', 'Trebuchet MS', 'sans-serif';
      }
       td {
         background-color: #E4F5D4;
         border: 1px solid black;
      }
       th,
      td {
```

```
            font-weight: bold;
            border: 1px solid black;
            padding: 10px;
            text-align: center;
        }
         td {
            font-weight: lighter;
        }
    </style>
</head>
 <body>
    <section>
        <h1>CSE Department Student Information</h1>
             <table>
            <tr>
                <th>Reg_No</th>
                <th>FirstName</th>
                <th>LastName</th>
                <th>Gender</th>
                 <th>Email</th>
                <th>Address</th>
                <th>Phone_No</th>
            </tr>
                        <!-- PHP CODE TO FETCH DATA FROM ROWS -->
            <?php
            // SQL query to select data from database
            $sql = " SELECT * FROM studnetinfo where dept='CSE' ";
                // LOOP TILL END OF DATA
             if($result = $mysqli->query($sql)){
                    while ($rows = $result->fetch_assoc()){
          ?>
            <tr>
                <!-- FETCHING DATA FROM EACH ROW OF EVERY COLUMN -->
                <td><?php echo $rows['Reg_No'];?></td>
                <td><?php echo $rows['FirstName'];?></td>
```

```
            <td><?php echo $rows['LastName'];?></td>
            <td><?php echo $rows['Gender'];?></td>
        <td><?php echo $rows['Email'];?></td>
        <td><?php echo $rows['Address'];?></td>
        <td><?php echo $rows['Phone_No'];?></td>
        </tr>
<?php
  }
}
 ?>
     </table>
  </section>
</body>
 </html>
```

Database Creation:

CREATE DATABASE **info**;

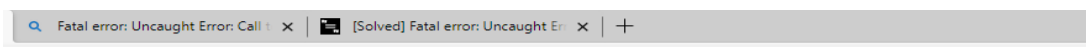
Table Creation:

CREATE TABLE **studentinfo**(Reg_No int(12), FirstName varchar(30), LastName varchar(30), Gender varchar(30), Email varchar(30), Dept varchar(30), Address varchar(50), Phone_No int(12));

Insert Data:

INSERT INTO `studnetinfo`(`Reg_No`, `FirstName`, `LastName`, `Gender`, `Email`, `Dept`, `Address`, `Phone_No`) VALUES ('102','kiran','selva','kiran@gmail.com','Male','CSE','HYB','98623476')

Output:



CSE Department Student Information

Reg_No	FirstName	LastName	Gender	Email	Address	Phone_No
101	Ram	Kumar	Male	ram@gmail.com	BVRM	1234569872
102	kiran	selva	Male	kiran@gmail.com	HYB	98623476
103	Ramya	krishna	Female	ramya@gmail.com	VZA	986511576

5) Create a PHP page for login system using session.

Aim: To create a PHP page for login system using session.

```
<?php
  ob_start();
  session_start();
?>
<html lang = "en">
    <head>
<link rel="stylesheet"
href=https://cdn.jsdelivr.net/npm/bootstrap@4.4.1/dist/css/bootstrap.min.css >
     <style>
      body {
        padding-top: 40px;
        padding-bottom: 40px;
        background-color: #ADABAB;
      }

      .form-signin {
        max-width: 330px;
        padding: 15px;
        margin: 0 auto;
        color: #017572;
      }

      .form-signin .form-signin-heading,
      .form-signin .checkbox {
        margin-bottom: 10px;
      }

      .form-signin .checkbox {
        font-weight: normal;
      }

      .form-signin .form-control {
        position: relative;
```

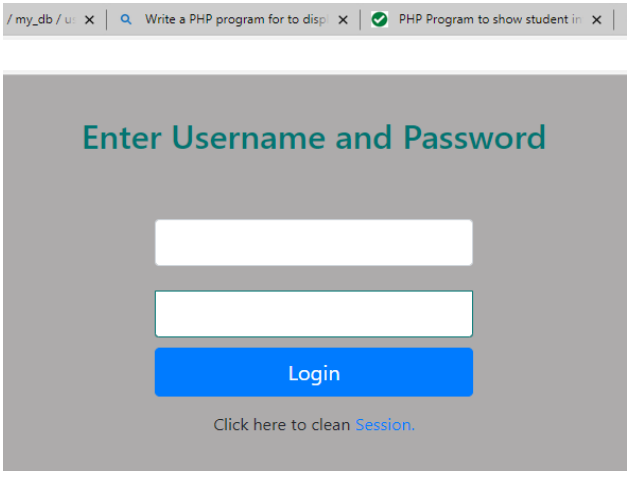
```
    height: auto;
    -webkit-box-sizing: border-box;
    -moz-box-sizing: border-box;
    box-sizing: border-box;
    padding: 10px;
    font-size: 16px;
  }

  .form-signin .form-control:focus {
    z-index: 2;
  }

  .form-signin input[type="email"] {
    margin-bottom: -1px;
    border-bottom-right-radius: 0;
    border-bottom-left-radius: 0;
    border-color:#017572;
  }

  .form-signin input[type="password"] {
    margin-bottom: 10px;
    border-top-left-radius: 0;
    border-top-right-radius: 0;
    border-color:#017572;
  }
        h2{
    text-align: center;
    color: #017572;
  }
</style>
 </head>
      <body>
    <h2>Enter Username and Password</h2>
<div class = "container form-signin">
```

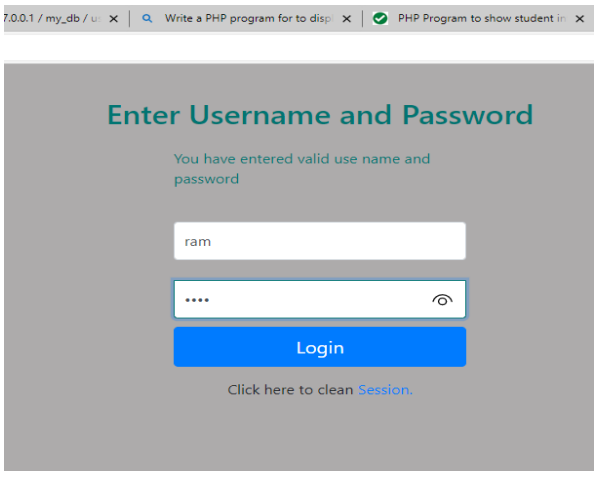
```
<?php
  $msg = '';
   if (isset($_POST['login']) && !empty($_POST['username'])
    && !empty($_POST['password'])) {
  if ($_POST['username'] == 'ram' &&
      $_POST['password'] == 1234) {
      $_SESSION['valid'] = true;
      $_SESSION['timeout'] = time();
      $_SESSION['username'] = 'ram';

      echo 'You have entered valid user name and password';
    }else {
      $msg = 'Wrong username or password';
    }
  }
 ?>
</div> <!-- /container -->
    <div class = "container">
      <form class = "form-signin" role = "form"
    action = "<?php echo htmlspecialchars($_SERVER['PHP_SELF']);
    ?>" method = "post">
    <h4 class = "form-signin-heading"><?php echo $msg; ?></h4>
    <input type = "text" class = "form-control"
      name = "username" required autofocus></br>
    <input type = "password" class = "form-control"
      name = "password" required>
    <button class = "btn btn-lg btn-primary btn-block" type = "submit"
      name = "login">Login</button>
  </form>
                        <P style=text-align:center>
  Click here to clean <a href = "logout.php" tite = "Logout">Session.
  </p>
</div>
  </body>
</html>
```

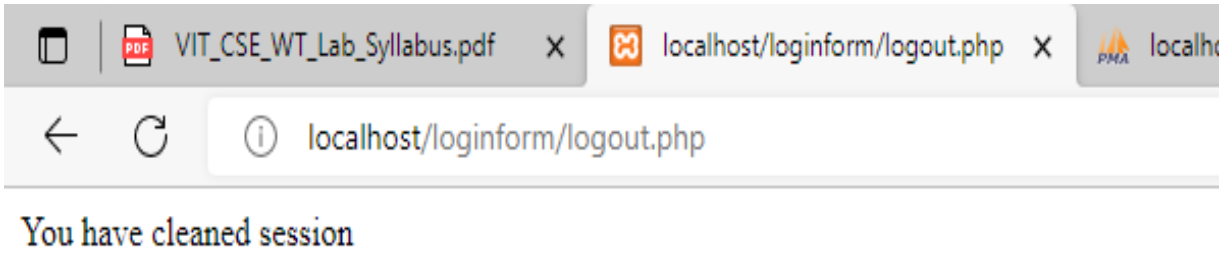
Logout.php

```
<?php
  session_start();
  unset($_SESSION["username"]);
  unset($_SESSION["password"]);

  echo 'You have cleaned session';
  header('Refresh: 2; URL = login.php');
?>
```

OUTPUT:







You have cleaned session

6) Write a PHP program to connect MySQL

Aim: To make simple CRUDApplication in PHP using MySQL and Boostrap.

Step 1 – Create Database

Step 2 – Create a New Table

Step 3 – Database Connection File

Step 4 – Create a js and CSS file

Step 5 – Insert form data into database

Step 6 – Update form data into database

Step 7 – Retrieve and Display List

Step 8 – Delete data into database

Step 1 – Create Database

First of all, We need to create a database. So go to PHPMyAdmin and create a new database name my_database.

Step 2 – Create a New Table

Now we need to create a table named users. So go to PHPMyAdmin and run the below SQL query for creating a table in database:

```
CREATE TABLE `users` (
 `id` bigint(20) NOT NULL AUTO_INCREMENT PRIMARY KEY,
`name` varchar(255) DEFAULT NULL,
`email` varchar(255) DEFAULT NULL,
`mobile` varchar(255) DEFAULT NULL
) ENGINE=MyISAM DEFAULT CHARSET=latin1;
```

Step 3 – Database Connection File

Connection.php

```
<?php
   $servername='localhost';
   $username='root';
   $password='root';
   $dbname = "my_db";
   $conn=mysqli_connect($servername,$username,$password,"$dbname");
    if(!$conn){
       die('Could not Connect MySql Server:' .mysql_error());
     }
?>
```

Step 4 – Create a js and CSS file

Head.php

```
<link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.css">
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.4/jquery.min.js"></script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.js"></script>
```

Step 5 – Insert form data into database

Create.php

```
<?php
require_once "connection.php";
if(isset($_POST['save']))
{
$name = $_POST['name'];
$mobile = $_POST['mobile'];
$email = $_POST['email'];
$sql = "INSERT INTO users (name,mobile,email)
VALUES ('$name','$mobile','$email')";
if (mysqli_query($conn, $sql)) {
header("location: index.php");
exit();
} else {
echo "Error: " . $sql . "
" . mysqli_error($conn);
}
mysqli_close($conn);
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Create Record</title>
<?php include "head.php"; ?>
</head>
<body>
```

```
<div class="container">
<div class="row">
<div class="col-lg-12">
<div class="page-header">
<h2>Create Record</h2>
</div>
<p>Please fill this form and submit to add employee record to the database.</p>
<form action="<?php echo htmlspecialchars($_SERVER["PHP_SELF"]); ?>" method="post">
<div class="form-group">
<label>Name</label>
<input type="text" name="name" class="form-control" value="" maxlength="50" required="">
</div>
<div class="form-group ">
<label>Email</label>
<input type="email" name="email" class="form-control" value="" maxlength="30" required="">
</div>
<div class="form-group">
<label>Mobile</label>
<input type="mobile" name="mobile" class="form-control" value="" maxlength="12" required="">
</div>
<input type="submit" class="btn btn-primary" name="save" value="submit">
<a href="index.php" class="btn btn-default">Cancel</a>
</form>
</div>
</div>
</div>
</body>
</html>
```

Step 6 – Update form data into database

Update.php

```
<?php
// Include database connection file
require_once "connection.php";
```

```
if(count($_POST)>0) {
mysqli_query($conn,"UPDATE users set name='" . $_POST['name'] . "', mobile='" . $_POST['mobile'] . "' ,email='" . $_POST['email'] . "' WHERE id='" . $_POST['id'] . "'");
header("location: index.php");
exit();
}
$result = mysqli_query($conn,"SELECT * FROM users WHERE id='" . $_GET['id'] . "'");
$row= mysqli_fetch_array($result);
?>
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<title>Update Record</title>
<?php include "head.php"; ?>
</head>
<body>
<div class="container">
<div class="row">
<div class="col-lg-12">
<div class="page-header">
<h2>Update Record</h2>
</div>
<p>Please edit the input values and submit to update the record.</p>
<form action="<?php echo htmlspecialchars(basename($_SERVER['REQUEST_URI'])); ?>" method="post">
<div class="form-group">
<label>Name</label>
<input type="text" name="name" class="form-control" value="<?php echo $row["name"]; ?>" maxlength="50" required="">
</div>
<div class="form-group ">
<label>Email</label>
<input type="email" name="email" class="form-control" value="<?php echo $row["email"]; ?>" maxlength="30" required="">
```

```
</div>
<div class="form-group">
<label>Mobile</label>
<input type="mobile" name="mobile" class="form-control" value="<?php echo $row["mobile"]; ?>" maxlength="12"required="">
</div>
<input type="hidden" name="id" value="<?php echo $row["id"]; ?>"/>
<input type="submit" class="btn btn-primary" value="Submit">
<a href="index.php" class="btn btn-default">Cancel</a>
</form>
</div>
</div>
</div>
</body>
</html>
```

Step 7 – Retrieve and Display List

Index.php

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="utf-8">
<title>Retrieve Or Fetch Data From MySQL Database Using PHP With Boostrap</title>
<?php include "head.php"; ?>
<script type="text/javascript">
$(document).ready(function(){
$('[data-toggle="tooltip"]').tooltip();
});
</script>
</head>
<body>
<div class="container">
<div class="row">
<div class="col-lg-12 mx-auto">
<div class="page-header clearfix">
<h2 class="pull-left">Users List</h2>
```

```
<a href="create.php" class="btn btn-success pull-right">Add New User</a>
</div>
<?php
include_once 'connection.php';
$result = mysqli_query($conn,"SELECT * FROM users");
?>
<?php
if (mysqli_num_rows($result) > 0) {
?>
<table class='table table-bordered table-striped'>
<tr>
<td>Name</td>
<td>Email id</td>
<td>Mobile</td>
<td>Action</td>
</tr>
<?php
$i=0;
while($row = mysqli_fetch_array($result)) {
?>
<tr>
<td><?php echo $row["name"]; ?></td>
<td><?php echo $row["email"]; ?></td>
<td><?php echo ($row["mobile"])?($row["mobile"]):('N/A'); ?></td>
<td><a href="update.php?id=<?php echo $row["id"]; ?>" title='Update Record'><span class='glyphicon glyphicon-pencil'></span></a>
<a href="delete.php?id=<?php echo $row["id"]; ?>" title='Delete Record'><i class='material-icons'><span class='glyphicon glyphicon-trash'></span></a>
</td>
</tr>
<?php
$i++;
}
?>
</table>
```

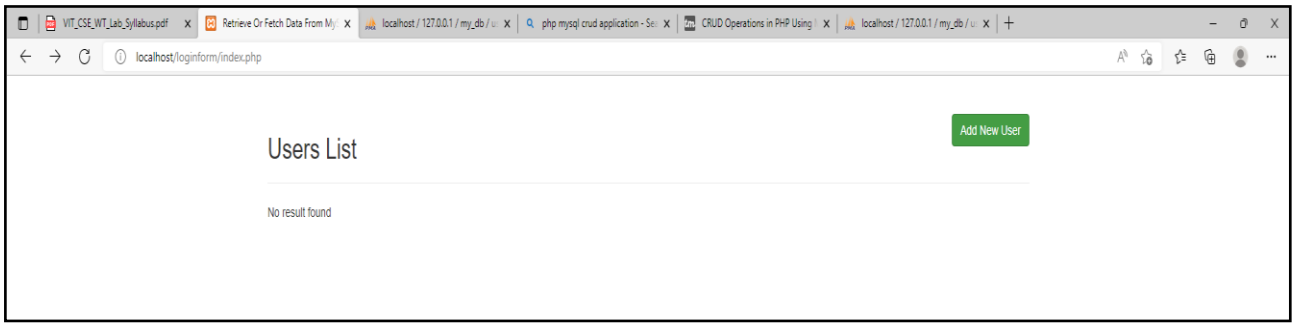
```
<?php
}
else{
echo "No result found";
}
?>
</div>
</div>
</div>
</body>
</html>
```

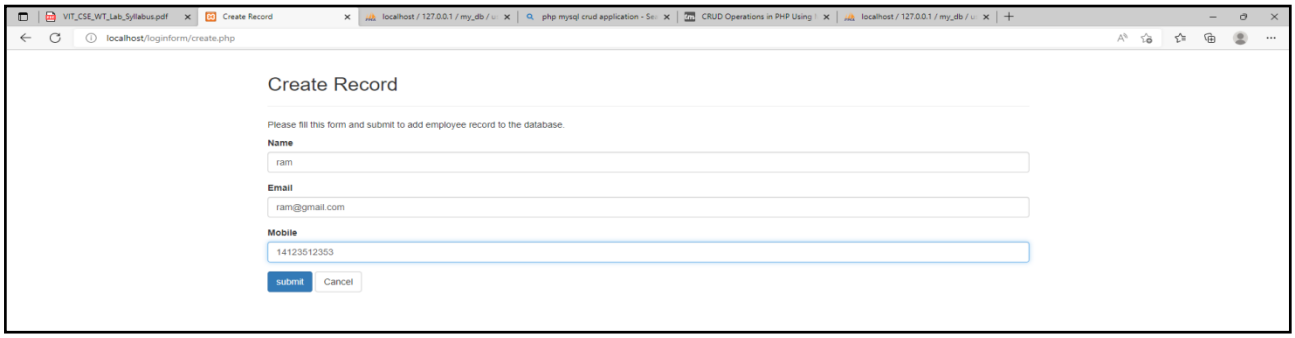
Step 8 – Delete data into database

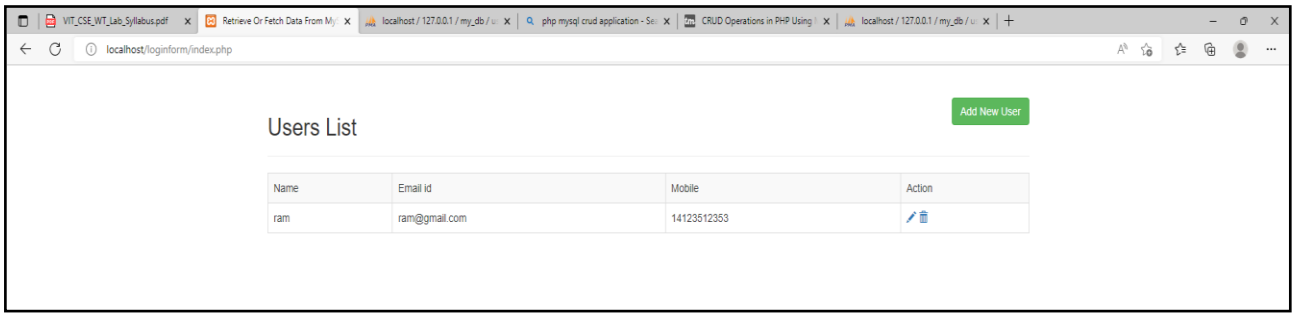
Delete.php

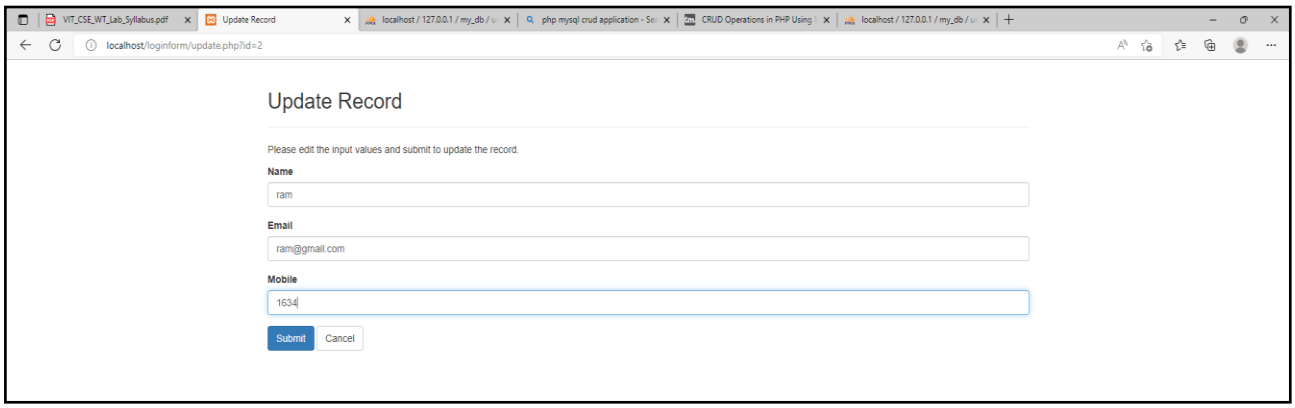
```
<?php
include_once 'connection.php';
$sql = "DELETE FROM users WHERE id='" . $_GET["id"] . "'";
if (mysqli_query($conn, $sql)) {
header("location: index.php");
exit();
} else {
echo "Error deleting record: " . mysqli_error($conn);
}
mysqli_close($conn);
?>
```

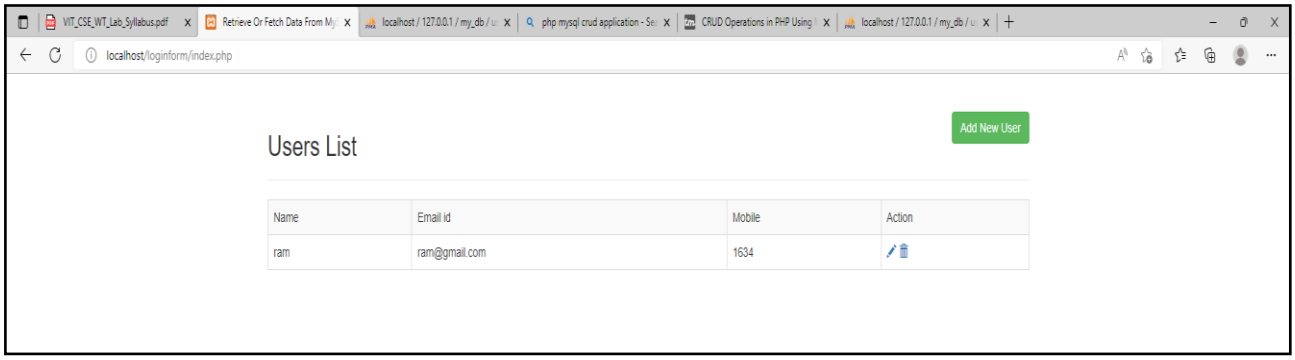
OUTPUT:

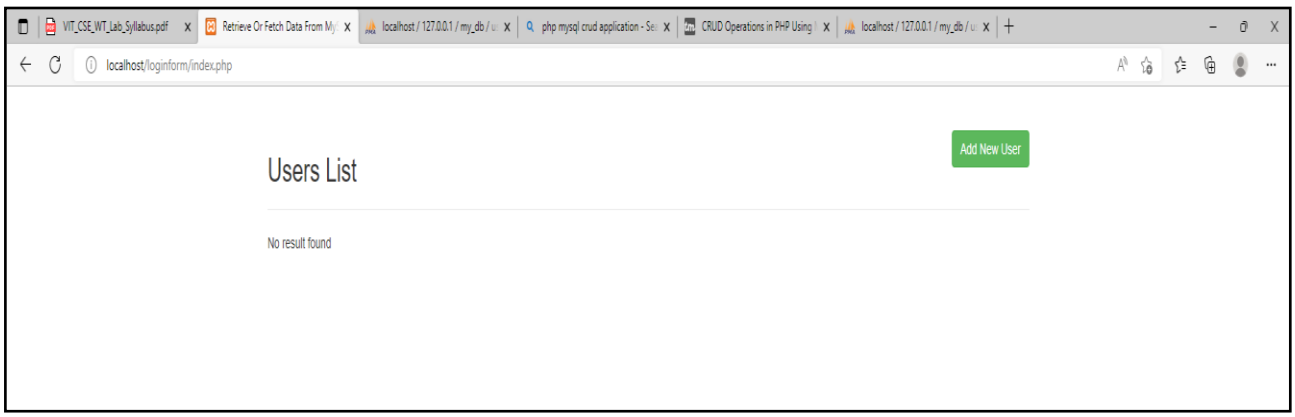



Create Record
Please fill this form and submit to add employee record to the database.
Name
ram
Email
ram@gmail.com
Mobile
14123512353
submit
Cancel


Users List
Add New User
Name
Email id
Mobile
Action
ram
ram@gmail.com
14123512353


Update Record
Please edit the input values and submit to update the record.
Name
ram
Email
ram@gmail.com
Mobile
1634
Submit
Cancel


Users List
Add New User
Name
Email id
Mobile
Action
ram
ram@gmail.com
1634


Users List
Add New User
No result found

7) Write a Node JS program to read and write file system

Aim: To write a Node JS program to read and write file system operation

File System Module

fs module is a build-in module in node js used to access file system. fs module has methods to read, write, append, rename, and delete data from a file stored in File System.

Example

const http=require('fs');

Read File

To read file in node js, we have both synchronous and asynchronous functions.

Read File Sync

fs.readFileSync method read a file synchronously.

Filename: Index.js

```
const fs=require('fs');
var data=readFileSync("data.txt");
console.log(data);
```

/*data.txt*/

hello node

Output:

<Buffer 68 65 6c 6c 6f 20 6e 6f 64 65>

Filename: Index.js

```
const fs=require('fs');
var data=readFileSync("data.txt").toString();
console.log(data);
```

/*data.txt*/

hello node

Output:

hello node

Read File

fs.readFile read any file asynchronously using a callback function as parameter.

Filename: Index.js

```
const fs=require('fs');
fs.readFile("data.txt",(err,data)=>{
if(err){
   console.log("Error : ", err);
}
else{
   console.log(data.toString());
}
})
```

/*data.txt*/

```
hello node
```

Output:

```
hello node
```

Read File with encoding

fs.readFile can have a option {encoding:'utf8'} to encode binary file. Without encoding, NodeJS will not decode the file into a string.

Filename: Index.js

```
const fs=require('fs');
fs.readFile("data.txt",{encoding:'utf8'},(err,data)=>{
if(err){
   console.log("Error : ", err);
}
else{
   console.log(data);  // .toString() not required
}
})
```

/*data.txt*/

```
hello node
```

Output:

```
hello node
```

Check File Stats

To check file properties in NodeJS, we use fs.stat method. Node JS provides two APIs for both synchronous and asynchronous operations.

stat method

Filename: Index.js

```
const fs=require('fs');
fs.stat('src/data.txt', (err, stats) => {
   if (err) {
     console.error(err)
   }
   else{
      console.log(stats.isFile());      // true
      console.log(stats.isDirectory());      // false
      console.log(stats.size);      // 1024
   }
 });
```

statSync method

Filename: Index.js

```
const fs=require('fs');
 try{
 const stats = fs.statSync('/Users/joe/test.txt');
}
catch(err){
    console.error(err);
}
```

Write File

To write in a file, node js use writeFile / writeFileSync methods.

```
const fs=require('fs');
 fs.writeFileSync('data.txt','Hello Node');
```

If data.txt file is missing in current directory, node js will create a new directory with same name and then write. There is no need to create a file first and then write.

writeFileSync

To write in a file synchronously, node js used fs.writeFileSync method. The first parameter is file name and second is text data.

Filename: Index.js

```
const fs=require("fs");
fs.writeFileSync('data.txt','Hello Node JS');
```

writeFile

To write in a file asynchronously, node js used fs.writeFile method. The first parameter is file name and second is text data and third is callback to handle errors..

Filename: Index.js

```
const fs=require("fs");
fs.writeFile('data.txt',"hello Node",(err)=>{
   if(err){
      console.log(err)
   }
})
```

Write File with utf-8

Filename: Index.js

```
const fs=require("fs");
fs.writeFile('data.txt',"hello Node",'utf8',(err)=>{
   if(err){
      console.log(err)
   }
})
```

Append in file

To append in a file, use appendFile or appendFileSync methods of fs. This will not overwrite in file like writeFile and writeFileSync.

appendFileSync

appendFileSync method of fs append file asynchronously.

Filename: Index.js

```
const fs=require('fs');
fs.appendFileSync('src/data.txt',"hello Node 1",'utf8',(err)=>{
   if(err){
      console.log(err)
   }
});
fs.appendFileSync('src/data.txt',"hello Node 2",'utf8',(err)=>{
   if(err){
      console.log(err)
   }
});
```

Output:

Hello Node 1

Hello Node 2

appendFile

appendFile method of fs append file synchronously.

Filename: Index.js

```
const fs=require('fs');
fs.appendFile('src/data.txt',"hello Node 1",'utf8',(err)=>{
   if(err){
      console.log(err)
   }
});
fs.appendFile('src/data.txt',"hello Node 2",'utf8',(err)=>{
   if(err){
      console.log(err)
   }
});
```

Output:

Hello Node 1

Hello Node 2

delete file

To delete files, node js use fs.unlink or fs.unlinkSync methods.

fs.unlinkSync

```
const fs=require('fs');
fs.unlinkSync('data.txt');
```

By using fs.unlinkSync without exception handling can create runtime errors. To handle this, use fs.unlinkSync with exception handling

Filename: Index.js

```
const fs=require('fs');
try{
   fs.unlinkSync('data.txt');
   console.log('file deleted successfully');
}
catch(err){
   console.log("Error",err);
}
```

fs.unlink

fs.unlink is a asynchronously method to delete file with two arguments. First is file name and second is callback function.

Filename: Index.js

```
const fs=require('fs');
fs.unlink('data.txt',(err)=>{
  if(err){
     console.log('Error:', err);
  }
  else{
    console.log('file deleted successfully');
  }
 })
```

Output:

file deleted successfully

8) Write a Node JS program to connect the MongoDB

Aim:

To perform CRUD Operation in MongoDB

Step 1

Connect your system with the internet and open the command prompt and then run

Command **install mongodb --save**

Step 2

Create a database in MongoDB using Node.js and VS Code. first, open VS Code and create a folder where you want to make database program. and then open this folder in VS Code

Step 3

For performing any crud operation in MongoDB, you need a database and a collection. First. create a database and then create a collection.

Step 4 - Create a database

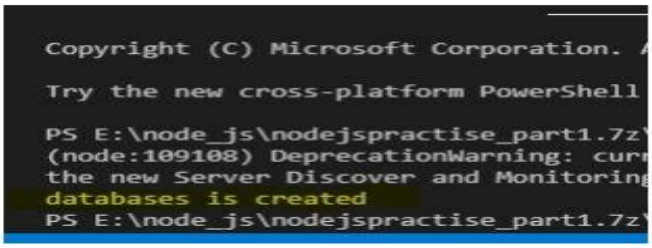
Create a .js page(createdatabase.js) and now write the code:

createdatabase.js

```
var mongodb=require('mongodb');
var MongoClient=mongodb.MongoClient;
var url='mongodb://localhost:27017/';
MongoClient.connect(url,function(error, databases){// use for to connect to the datab
ases
if(error){
throw error;
}
var dbobject=databases.db('navigcollection');//use for create database
console.log("databases is created")
databases.close();
})
```

Compile

node createdb.js



Step 5 - Create collection in database

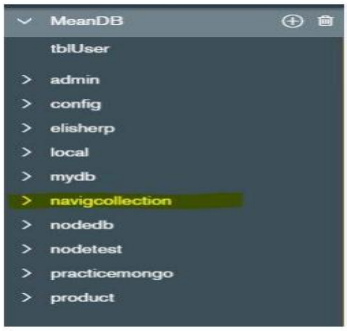
Create a .js file ("createcollection.js") and write code.

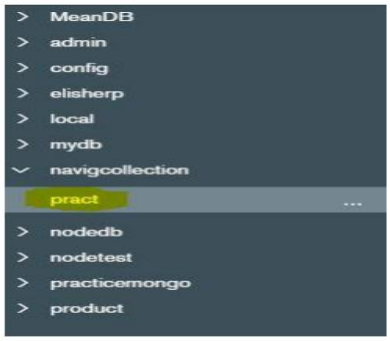
createcollection.js

```
var mongodb=require('mongodb');
var MongoClient=mongodb.MongoClient;
var url="mongodb://localhost:27017/"
MongoClient.connect(url,function(error,databases){
if(error){
throw error;
 }
var dbase=databases.db("navigcollection");
dbase.createCollection("pract",function(error,response){
if(error){
throw error;
}
console.log("collection is created.....")
 databases.close();
});
});
```

Compile

```
node createcollection.js
```





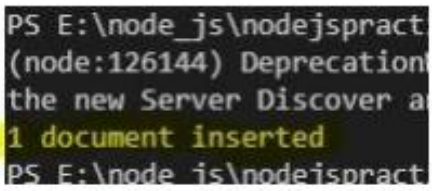
Step 6 - Insert record in database

insert.js"

```
var mongodb = require('mongodb');
var mongoClient = mongodb.MongoClient;
var url = "mongodb://localhost:27017/";
mongoClient.connect(url, function(err, databases) {
if (err)
{
throw err;
}
var nodetestDB = databases.db("navigcollection"); //here
var customersCollection = nodetestDB.collection("pract");
var customer = {_id:111, name:"Santosh Kumar" , address: "B-222, Sector19, NOIDA",
orderdata:"Arrow Shirt"};
customersCollection.insertOne(customer, function(error, response) {
if (error) {
throw error;
}
console.log("1 document inserted");
databases.close();
});
});
```

Compile

```
node insert.js
```



Now insert record into the collection, create again a js file ("insertmanydocu.js") and write the code:

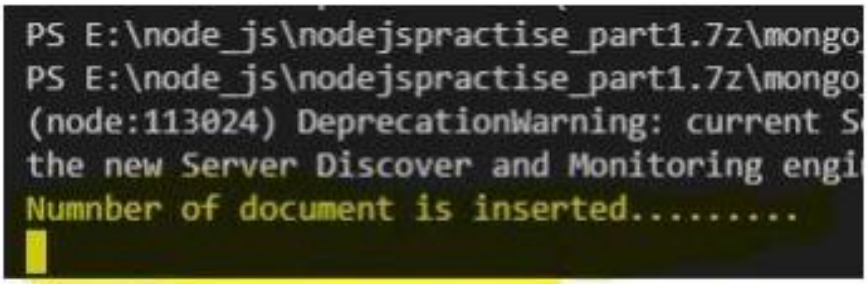
insertmanydocu.js

```
var mongodb=require('mongodb');
var MongoClient=mongodb.MongoClient;
var url='mongodb://localhost:27017/';
```

```
MongoClient.connect(url,function(error,databases){
if(error){
throw error;
}
var nodtst=databases.db("navigcollection");
var pract=[
{_id:11,name:"Chaman Gautam" , address: "Harvansh nagar Ghaziabad", orderdata:"J
eans"},
{_id:12,name:"Shivani" , address: "Harvansh nagar Ghaziabad", orderdata:"Jeans"},
{_id:13,name:"Menu" , address: "Harvansh nagar Ghaziabad", orderdata:"Top"},
{_id:14,name:"Brajbala" , address: "Harvansh nagar Ghaziabad", orderdata:"Dinig tab
le"},
{_id:15,name:"Ramsaran" , address: "Harvansh nagar Ghaziabad", orderdata:"Washin
g machine"},
{_id:16,name:"Dheeraj" , address: "Harvansh nagar Ghaziabad", orderdata:"Jeans"}
]
nodtst.collection('pract').insertMany(pract , function(error,response){
if(error){
throw error;
}
console.log("Numnber of document is inserted.....");
 })
. })
```

Compile

```
node insertmanydocu.js
```



Step 7 - Find record from database

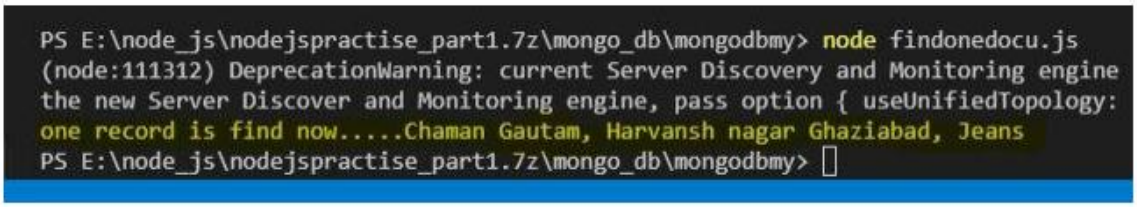
Find 1 record from collection

Now creata a .js page("find1docu.js") create a page and write the code:

```
var mongodb=require("mongodb");
var MongoClient=mongodb.MongoClient;
var url='mongodb://localhost:27017/';
MongoClient.connect(url, function(error, databases){
if(error){
throw error;
}
var nodtst = databases.db("navigcollection");
 nodtst.collection("pract").findOne({name:'Shivani'}, function(err, result) {
if (err) throw err;
console.log("one record is find now....."+result.name + ", " + result.address + ", " +
result.orderdata);
databases.close();
 })
 })
```

Compile

```
node findonedocu.js
```



find many record from collection

Now, create a new .js page("findmanudocu.js") and write the following code:

findmanudocu.js

```
var mongodb=require("mongodb");
var MongoClient=mongodb.MongoClient;
var url='mongodb://localhost:27017/';
MongoClient.connect(url, function(error, databases){
if(error){
throw error;
}
 var nodtst = databases.db("navigcollection");
```

```
 nodtst.collection("pract").find({}).toArray(function(err, totalpract) {
 if (err) throw err;
 for(i = 0; i < totalpract.length; i++) {
 let pract = totalpract[i];
console.log(pract.name + ", " + pract.address + ", " + pract.orderdata);
 }
//console.log(result);
 databases.close();
 });
});
```

Compile

```
node findmanydocu.js
```

Step 8 - update record in collection

Update one record from collection

updateone.js

```
var mongodb=require('mongodb');
var MongoClient=mongodb.MongoClient;
var url="mongodb://localhost:27017/"
MongoClient.connect(url,function(error,databases){
if(error){
throw error;
}
var nodtst=databases.db("navigcollection");
var whereClause = { name:/Chaman Gautam/};
var newvalues = { $set: { name:"Lucky Gautam"}};
nodtst.collection("pract").updateOne(whereClause,newvalues,function(err,res){
if(error){
throw error;
 }
console.log(res.result.n + "document updated");
 });
 });
```

Compile

```
node updateone.js
```

Now update many records from collection

updatemany.js

```
var mongodb = require('mongodb');
var mongoClient = mongodb.MongoClient;
var url = "mongodb://localhost:27017/";
mongoClient.connect(url, function(err, databases) {
if (err)
{
throw err;
}
var nodeDB = databases.db("practicemongo"); //here
var myquery = { address: /Harvansh nagar/ };
var newvalues = {$set: {name: "Shivani"} };
nodeDB.collection("pract").updateMany(myquery, newvalues, function(err, res) {
if (err) throw err;
console.log(res.result.nModified + " document(s) updated");
databases.close();
});
});
```

Compile

```
node updatemany.js
```

Step 9 - now delete operation

delete one record from collection

deleteone.js

```
var mongodb=require('mongodb');
var MongoClient=mongodb.MongoClient;
var url ='mongodb://localhost:27017/';
MongoClient.connect(url,function(error,databases){
if(error)
{
throw error;
}
var nodtst=databases.db('navigcollection');
var deleteQuery={name:'Menu'};
```

```
nodtst.collection("pract").deleteOne(deleteQuery,function(error,response){
if(error){
throw error;
}
console.log(response.result.n+" 1 document deleted.....");
databases.close();
})
});
```

Compile

```
node deleteone.js
```

deletemany.js

```
var mongodb=require('mongodb');
var MongoClient=mongodb.MongoClient;
var url='mongodb://localhost:27017/';
MongoClient.connect(url,function(error,databases){
if(error)
{
throw error;
}
var nodtst=databases.db('navigcollection');
var deleteQuery={};
nodtst.collection('pract').deleteMany(deleteQuery,function(error,response){
if(error){
throw error;
}
console.log(response.result.n + "document(s) deleted successfully .....");
databases.close();
})
})
```

9) Write a servlet program which receives data from HTML forms and respond it. Create one Servlet to retrieve "ServletContext Initialization Parameters "which you have given in the web.xml file.

Login.html

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<title> Login Page </title>
<style>
Body {
  font-family: Calibri, Helvetica, sans-serif;
  background-color: pink;
}
button {
       background-color: #4CAF50;
       width: 100%;
        color: orange;
        padding: 15px;
        margin: 10px 0px;
        border: none;
        cursor: pointer;
         }
 form {
width: 25%;
        border: 3px solid #f1f1f1;
    }
 input[type=text], input[type=password] {
        width: 100%;
        margin: 8px 0;
        padding: 12px 20px;
        display: inline-block;
        border: 2px solid green;
        box-sizing: border-box;
    }
```

```
 button:hover {
        opacity: 0.7;
    }
  .cancelbtn {
        width: auto;
        padding: 10px 18px;
        margin: 10px 5px;
    }
 .container {
        padding: 25px;
        background-color: lightblue;
    }
</style>
</head>
<body>
    <center> <h1> Login Form </h1>
   <form action="ValidServ" method="post">
        <div class="container">
                    <input type="text" placeholder="Enter Username" name="txtuser" required>
                      <input type="password" placeholder="Enter Password" name="txtpass" required>
          <button type="submit">Login</button>
                </div>
    </form>  </center>
</body>
</html>
```

ValidServ.java

```
          import java.io.IOException;
          import java.util.Enumeration;
          import javax.servlet.ServletConfig;
          import javax.servlet.ServletException;
          import javax.servlet.http.HttpServlet;
          import javax.servlet.http.HttpServletRequest;
          import javax.servlet.http.HttpServletResponse;

          public class ValidServ extends HttpServlet {
```

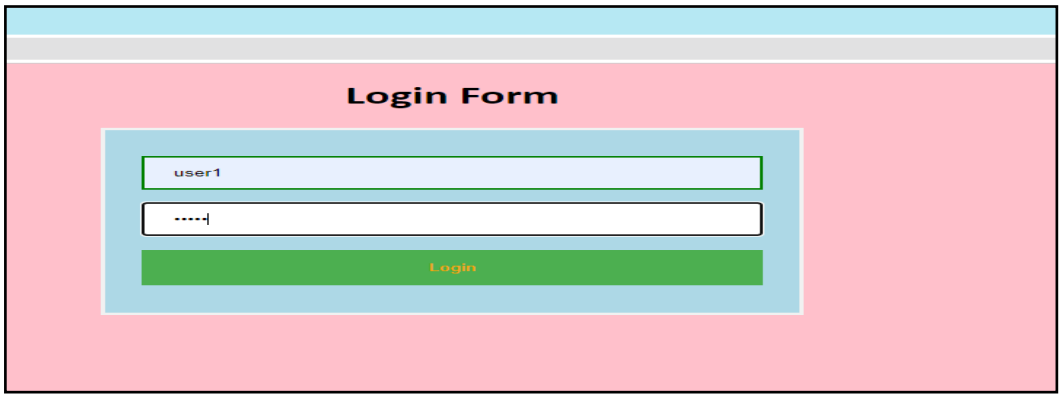
```
    private static final long serialVersionUID = 1L;
    ServletConfig cfg;

public ValidServ() {
   super();
   // TODO Auto-generated constructor stub
}

    /**
     * @see Servlet#init(ServletConfig)
     */
    public void init(ServletConfig config) throws ServletException {
            cfg = config;
    }

    public void doPost(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
            String un = request.getParameter("txtuser");
            String pw = request.getParameter("txtpass");
            boolean flag = false;
            Enumeration<String> initparams = cfg.getInitParameterNames();
            while(initparams.hasMoreElements())
            {
                    String name = initparams.nextElement();
                    String pass = cfg.getInitParameter(name);
                    if(un.equals(name) && pw.equals(pass))
                    {
                            flag = true;
                    }
            }
            if(flag)
            {
                    response.getWriter().print("Valid user!");
            }
            else
```

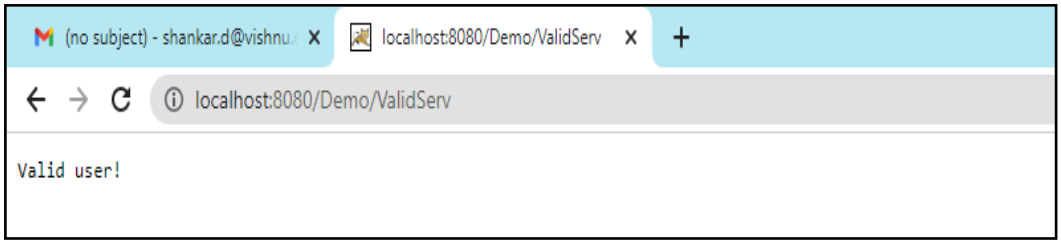
```
                {
                        response.getWriter().print("Invalid user!");
                }
            }
        }
```

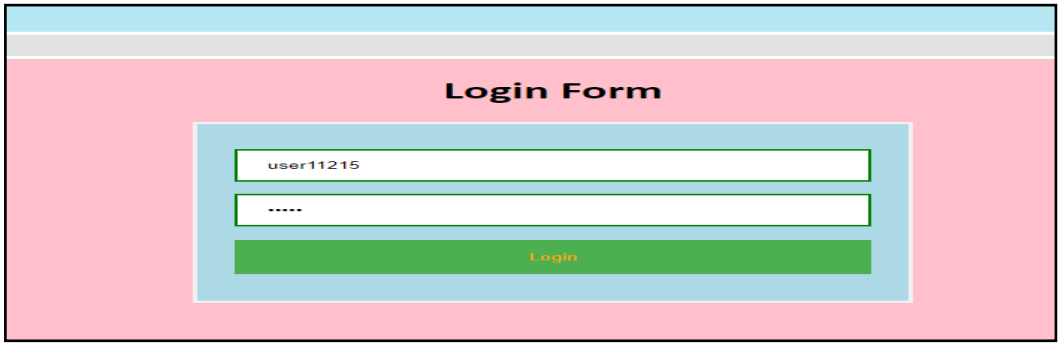
web.xml

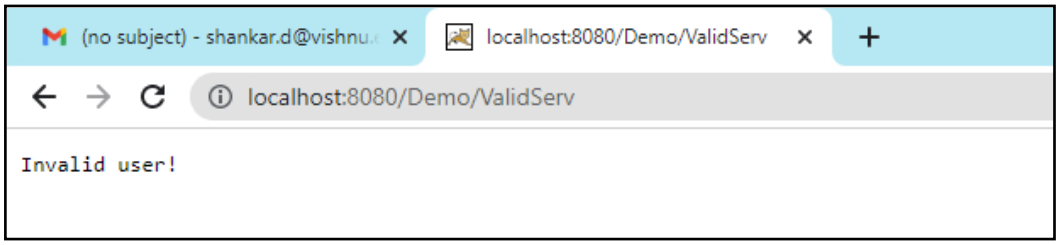
```
<?xml version="1.0" encoding="UTF-8"?>
<web-app>
  <servlet>
    <servlet-name>ValidServ</servlet-name>
    <servlet-class>ValidServ</servlet-class>
    <init-param>
      <param-name>user1</param-name>
      <param-value>pass1</param-value>
    </init-param>
    <init-param>
      <param-name>user2</param-name>
      <param-value>pass2</param-value>
    </init-param>
    <init-param>
      <param-name>user3</param-name>
      <param-value>pass3</param-value>
    </init-param>
    <init-param>
      <param-name>user4</param-name>
      <param-value>pass4</param-value>
    </init-param>
  </servlet>
  <servlet-mapping>
    <servlet-name>ValidServ</servlet-name>
    <url-pattern>/ValidServ</url-pattern>
  </servlet-mapping>
</web-app>
```

Output:


Login Form
user1
Login


(no subject) - shankar.d@vishnu
localhost:8080/Demo/ValidServ
localhost:8080/Demo/ValidServ
Valid user!


Login Form
user11215
Login


(no subject) - shankar.d@vishnu
localhost:8080/Demo/ValidServ
localhost:8080/Demo/ValidServ
Invalid user!

10) Write a servlet program to authenticate four users using cookies.

Aim: To write a servlet program to authenticate four users using cookies.

login.html:

```
<!DOCTYPE html>
<html>
<head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<title> Login Page </title>
<style>
Body {
  font-family: Calibri, Helvetica, sans-serif;
  background-color: pink;
}
button {
       background-color: #4CAF50;
       width: 100%;
        color: orange;
        padding: 15px;
        margin: 10px 0px;
        border: none;
        cursor: pointer;
         }
 form {
width: 25%;
        border: 3px solid #f1f1f1;
    }
 input[type=text], input[type=password] {
        width: 100%;
        margin: 8px 0;
        padding: 12px 20px;
        display: inline-block;
        border: 2px solid green;
        box-sizing: border-box;
    }
 button:hover {
```

```
        opacity: 0.7;
    }
  .cancelbtn {
        width: auto;
        padding: 10px 18px;
        margin: 10px 5px;
    }
 .container {
        padding: 25px;
        background-color: lightblue;
    }
</style>
</head>
<body>
   <center> <h1> Login Form </h1>
   <form action="cookies" method="post">
        <div class="container">
                <input type="text" placeholder="Enter Username" name="uname" required>
                  <input type="password" placeholder="Enter Password" name="pass"
required>
          <button type="submit">Login</button>
              </div>
   </form>  </center>
</body>
</html>
```

login.java:

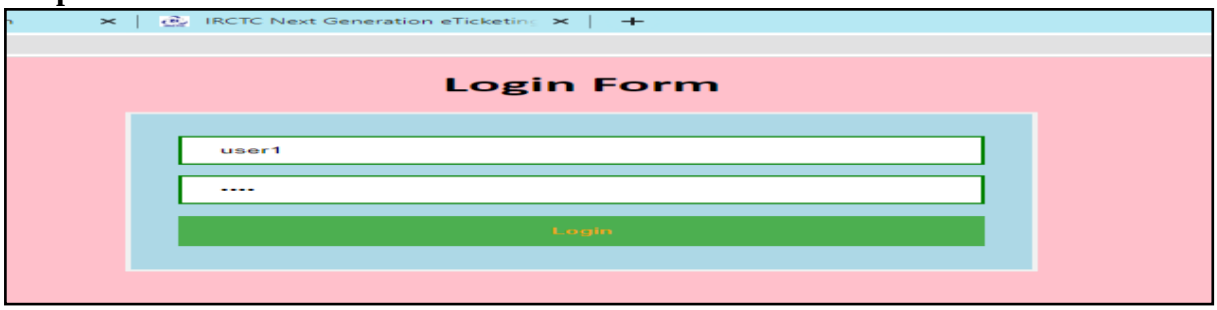
```
import java.io.*;
import jakarta.servlet.*;
import jakarta.servlet.http.*;
public class login extends HttpServlet
{
  public void doPost(HttpServletRequest request, HttpServletResponse response)
  throws ServletException, IOException
  {
```

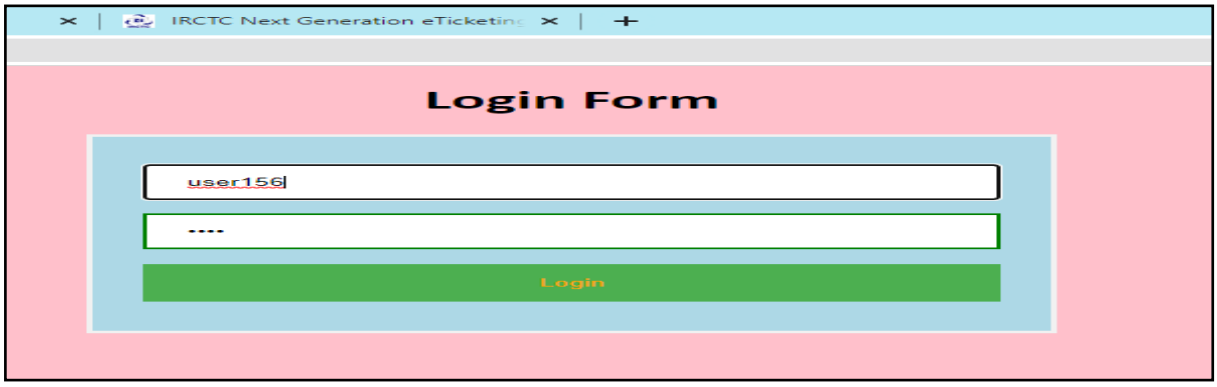
```
response.setContentType("text/html");
String n=request.getParameter("uname");
String p=request.getParameter("pass");
PrintWriter out = response.getWriter();
Cookie nam1=new Cookie("user1","user1");
Cookie nam2=new Cookie("user2","user2");
Cookie nam3=new Cookie("user3","user3");
Cookie nam4=new Cookie("user4","user4");
Cookie pas1=new Cookie("pwd1","pwd1");
Cookie pas2=new Cookie("pwd2","pwd2");
Cookie pas3=new Cookie("pwd3","pwd3");
Cookie pas4=new Cookie("pwd4","pwd4");
int flag=0;
String nam[]={nam1.getValue(),nam2.getValue(),nam3.getValue(),nam4.getValue()};
String pas[]={pas1.getValue(),pas2.getValue(),pas3.getValue(),pas4.getValue()};
for(int i=0;i<4;i++)
{
 if(nam[i].equals(n)&&pas[i].equals(p))
 {
  flag=1;
 }
}
if(flag==1)
{
 out.println("Wecome you "+n.toUpperCase());
}
else
{
out.println("You are not an authenticated user");
}
}
}
```

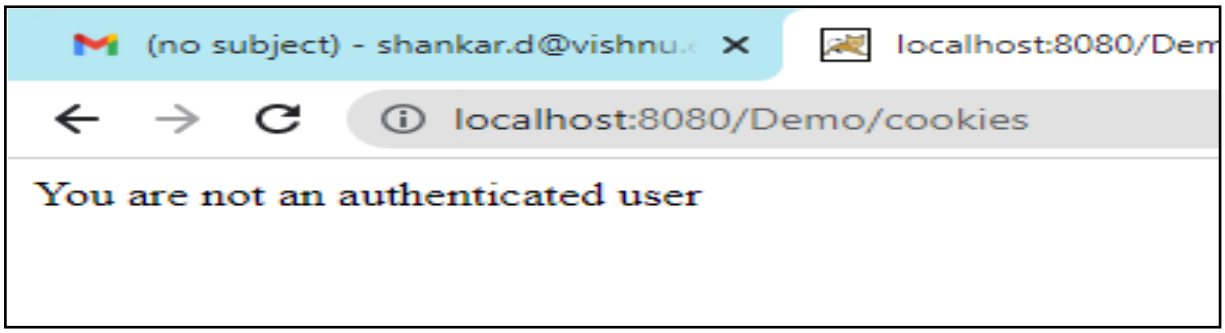
Web.xml:

```
<web-app>
  <servlet>
    <servlet-name>login</servlet-name>
    <servlet-class>login</servlet-class>
  </servlet>
  <servlet-mapping>
    <servlet-name>login</servlet-name>
    <url-pattern>/cookies</url-pattern>
  </servlet-mapping>
</web-app>
```

Output:







11) Write a servlet that, on entry of a student roll no, displays the full details of that student details (Using student table with roll no, Name, Address, date of birth, course fields).

Database Creation

CREATE TABLE STUDENT(ROLLNO INT PRIMARY KEY, NAME VARCHAR(40), ADDRESS VARCHAR (60), DOB VARCHAR(20), COURSE VARCHAR (40));

index.html

```
<!DOCTYPE html>
<html>
<body>
  <form action="Search" method="get">
 Enter your Roll_No:<input type="text" name="t1"><br/>
<button type="submit">Search</button>
</form>
</body>
</html>
```

StudentSearch.java

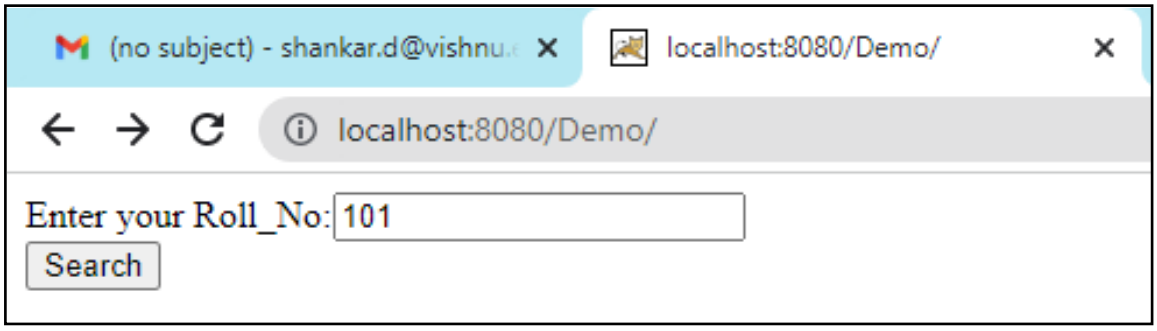
```
import java.io.*;
import java.sql.*;
import jakarta.servlet.ServletException;
import jakarta.servlet.http.*;
 public class StudentSearch extends HttpServlet {
    public void init()
   {
     try
     {
Connection cn=DriverManager.getConnection("jdbc:mysql://localhost:3306/crud","root","root");
     }
     catch(Exception ce)
     {
        System.out.println("Error"+ce.getMessage());
     }

   }
   public void doGet(HttpServletRequest req, HttpServletResponse resp)
```

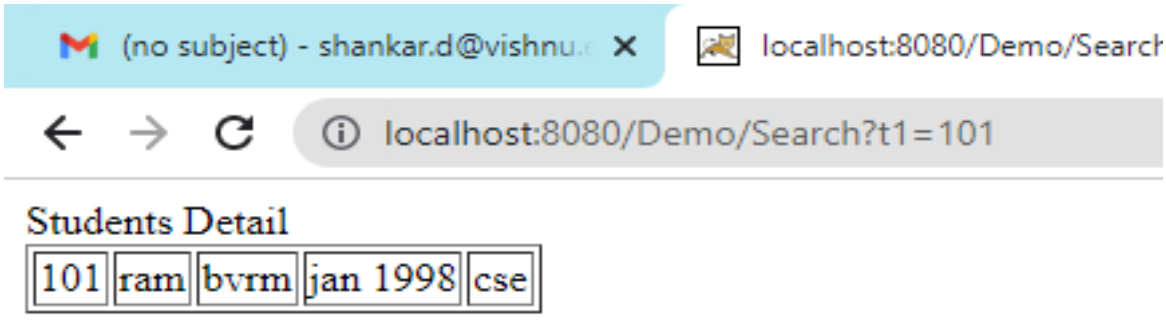
```
        throws ServletException, IOException
    {
      resp.setContentType("text/html");
      PrintWriter pw=resp.getWriter();
      try
      {
        int rno=Integer.parseInt(req.getParameter("t1"));
        String qry="select * from student where RollNo="+rno;
        Statement st=cn.createStatement();
        ResultSet rs=st.executeQuery(qry);
        while(rs.next())
        {
        pw.print("Students Detail");
        pw.print("<table border=1>");
          pw.print("<tr>");
      pw.print("<td>" + rs.getInt(1) + "</td>");  pw.print("<td>" + rs.getString(2) + "</td>");
           pw.print("<td>" + rs.getString(3) + "</td>");
        pw.print("<td>" + rs.getString(4) + "</td>");
        pw.print("<td>" + rs.getString(5) + "</td>");
          pw.print("</tr>");
          pw.print("</table>");
        }       }
       catch(Exception se){}
       pw.close();
    } }
```

web.xmlfile

```
<web-app>
  <servlet>
<servlet-name>Search</servlet-name>
<servlet-class>StudentSearch</servlet-class>
</servlet>
  <servlet-mapping>
<servlet-name>Search</servlet-name>
<url-pattern>/Search</url-pattern>
</servlet-mapping>
  </web-app>
```

Output:


(no subject) - shankar.d@vishnu.
localhost:8080/Demo/
localhost:8080/Demo/
Enter your Roll_No: 101
Search


(no subject) - shankar.d@vishnu.
localhost:8080/Demo/Search
localhost:8080/Demo/Search?t1=101
Students Detail
101 ram bvrm jan 1998 cse

12) Write JSP program to register a student using registration form using student table.

Registration.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
   <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
   <title>User Data</title>
</head>
<style>
   div.ex {
      text-align: right;
      width: 300px;
      padding: 10px;
      border: 5px solid grey;
      margin: 0px
   }
</style>
<body>
<h1>Registration Form</h1>
<div class="ex">
   <form action="RegistrationController" method="post">
      <table style="with: 50%">
         <tr>
            <td>Full Name</td>
            <td><input type="text" name="fullname"/></td>
         </tr>
         <tr>
            <td>Username</td>
            <td><input type="text" name="userName"/></td>
         </tr>
         <tr>
            <td>Password</td>
```

```
            <td><input type="password" name="pass"/></td>
        </tr>
        <tr>
            <td>Address</td>
            <td><input type="text" name="address"/></td>
        </tr>
        <tr>
            <td>Age</td>
            <td><input type="text" name="age"/></td>
        </tr>
        <tr>
            <td>Qualification</td>
            <td><input type="text" name="qual"/></td>
        </tr>
        <tr>
            <td>Percentage</td>
            <td><input type="text" name="percent"/></td>
        </tr>
        <tr>
            <td>Year Passed</td>
            <td><input type="text" name="yop"/></td>
        </tr>
    </table>
    <input type="submit" value="register"/>
</form>
<br>
create a student table in test database before registering this form
<br> Syntax : <br>
<i>create table student(name varchar(100), userName varchar(100), pass varchar(100), addr varchar(100), age int,
    qual varchar(100), percent varchar(100), year varchar(100));</i>
</div>
</body>
</html>
```

RegistrationController.java

```
package com.candid;
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/RegistrationController")
public class RegistrationController extends HttpServlet {
   protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      String name = request.getParameter("fullname");
      String userName = request.getParameter("userName");
      String pass = request.getParameter("pass");
      String addr = request.getParameter("address");
      String age = request.getParameter("age");
      String qual = request.getParameter("qual");
      String percent = request.getParameter("percent");
      String year = request.getParameter("yop");

      // validate given input
      if (name.isEmpty() || addr.isEmpty() || age.isEmpty() || qual.isEmpty() || percent.isEmpty() ||
year.isEmpty()) {
         RequestDispatcher rd = request.getRequestDispatcher("registration.jsp");
         out.println("<font color=red>Please fill all the fields</font>");
```

```
            rd.include(request, response);
        } else {
            // inserting data into mysql(mariadb) database
            // create a test database and student table before running this to create table
            //create table student(name varchar(100), userName varchar(100), pass varchar(100), addr varchar(100), age int, qual varchar(100), percent varchar(100), year varchar(100));
            try {
                Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/test", "root", "root");
                String query = "insert into student values(?,?,?,?,?,?,?,?)";
                PreparedStatement ps = con.prepareStatement(query); // generates sql query
                ps.setString(1, name);
                ps.setString(2, userName);
                ps.setString(3, pass);
                ps.setString(4, addr);
                ps.setInt(5, Integer.parseInt(age));
                ps.setString(6, qual);
                ps.setString(7, percent);
                ps.setString(8, year);
                ps.executeUpdate(); // execute it on test database
                System.out.println("successfuly inserted");
                ps.close();
                con.close();
            } catch (ClassNotFoundException | SQLException e) {
                e.printStackTrace();
            }
            RequestDispatcher rd = request.getRequestDispatcher("home.jsp");
            rd.forward(request, response);
        }
    }
}
```

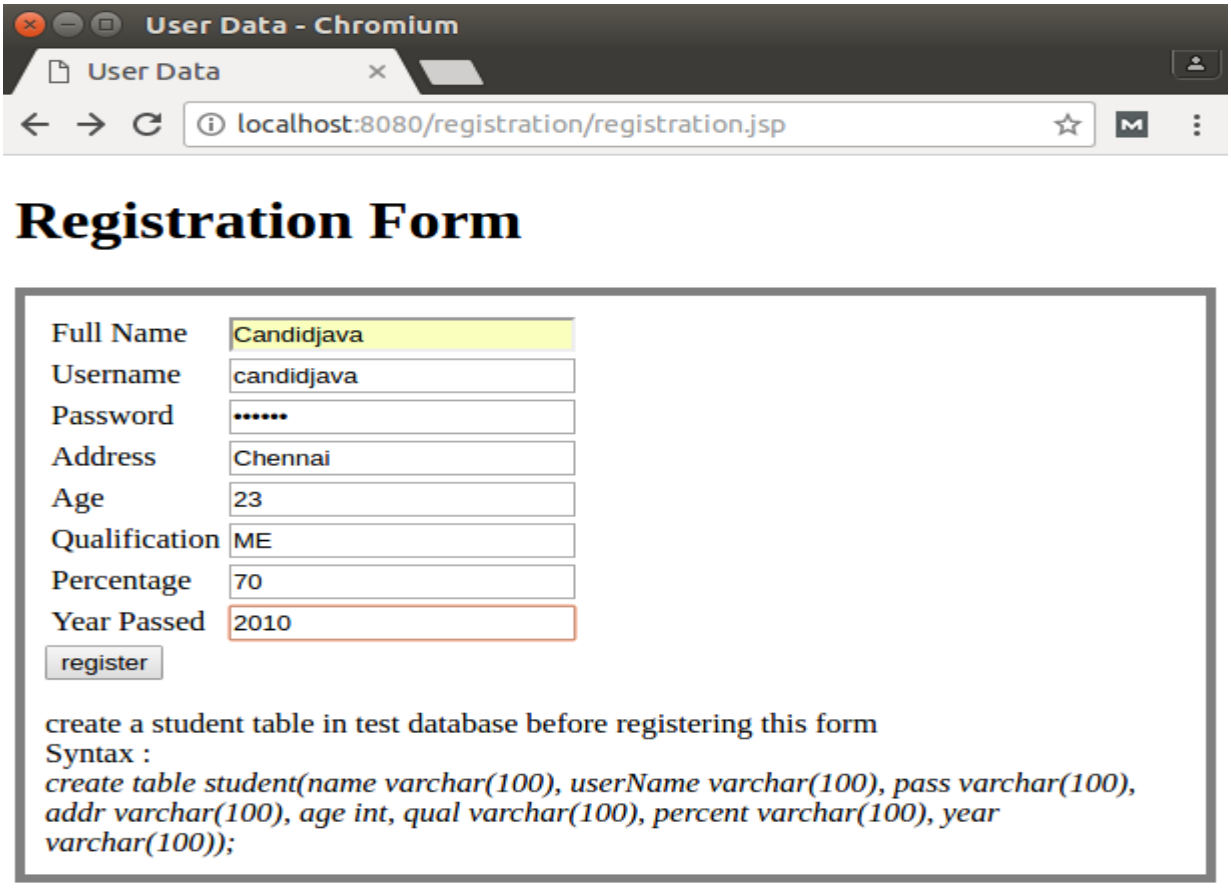
Success page (home.jsp)

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1" %>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
   <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
   <title>Display</title>
   <style>
      table#nat {
         width: 50%;
         background-color: #c48ec5;
      }
   </style>
</head>
<body>
<%
   String name = request.getParameter("fullname");
   String userName = request.getParameter("userName");
   String pass = request.getParameter("pass");
   String addr = request.getParameter("address");
   String age = request.getParameter("age");
   String qual = request.getParameter("qual");
   String percent = request.getParameter("percent");
   String year = request.getParameter("yop");
%>
<table id="nat">
   <tr>
      <td>Full Name</td>
      <td><%= name %>
      </td>
   </tr>
   <tr>
      <td>User Name</td>
```

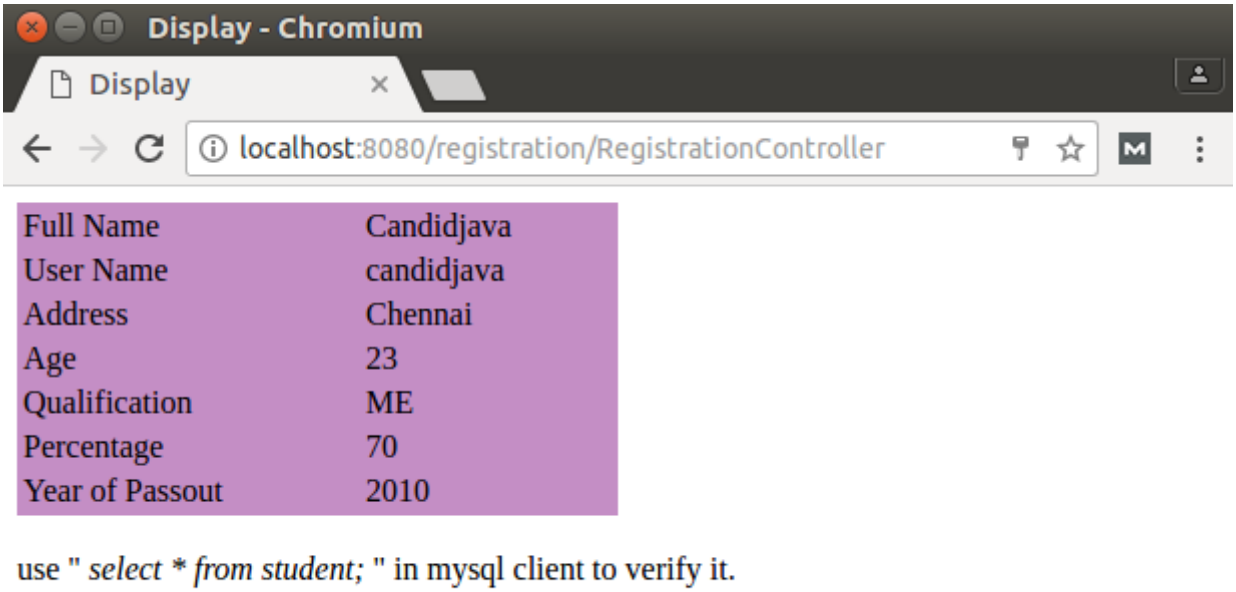
```
        <td><%= userName %>
        </td>
    </tr>
    <tr>
        <td>Address</td>
        <td><%= addr %>
        </td>
    </tr>
    <tr>
        <td>Age</td>
        <td><%= age %>
        </td>
    </tr>
    <tr>
        <td>Qualification</td>
        <td><%= qual %>
        </td>
    </tr>
    <tr>
        <td>Percentage</td>
        <td><%= percent %>
        </td>
    </tr>
    <tr>
        <td>Year of Passout</td>
        <td><%= year %>
        </td>
    </tr>
</table>
<br>
use " <i> select * from student; </i> " in mysql(mariadb) client to verify it.
</body>
</html>
```

Output:

Screenshot 1



Screenshot 2



13) Write JSP program for authenticating user by his password using login form.

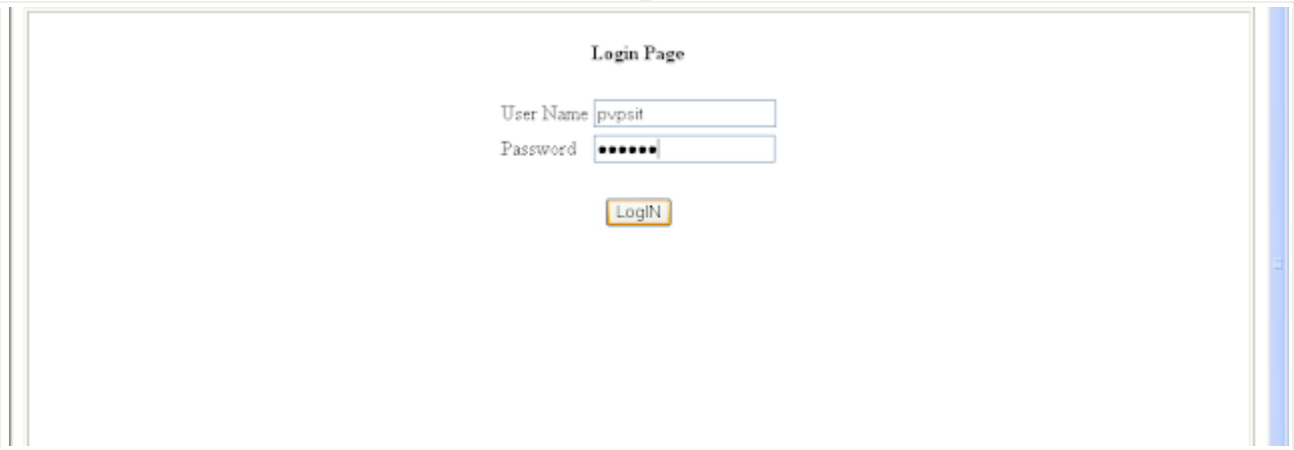
Login.html:

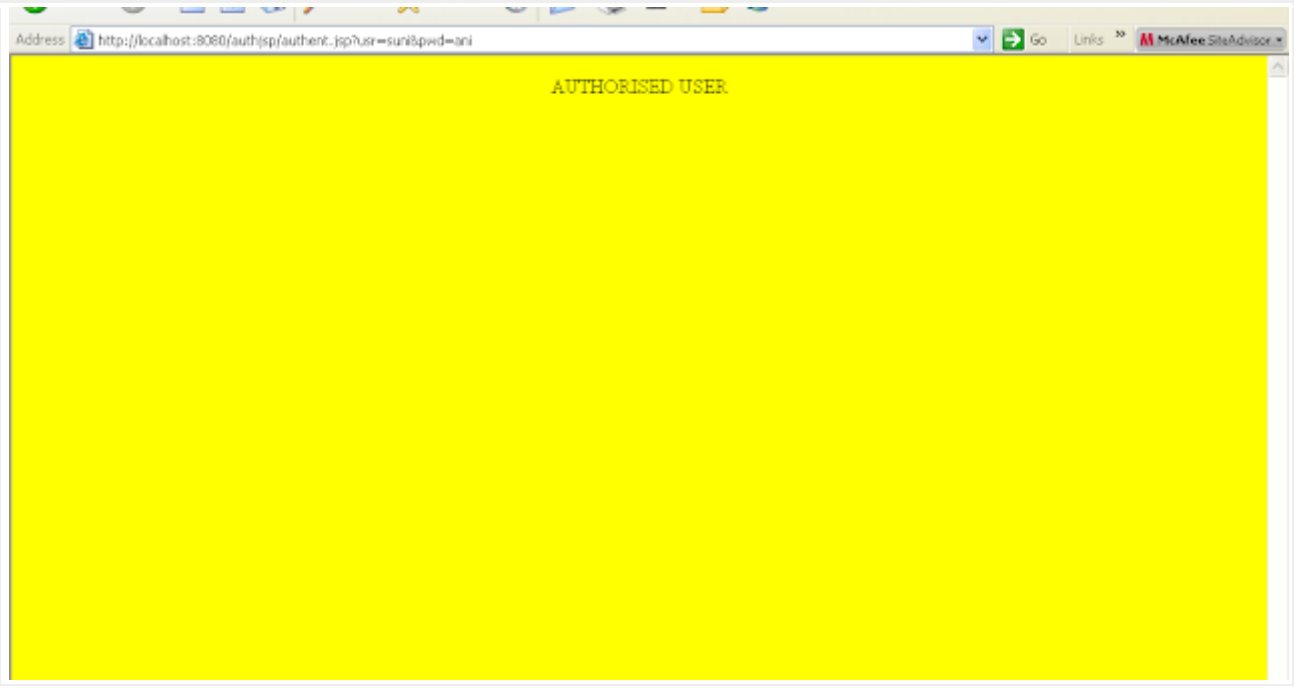
```
<html>
<body>
<table border="1" width="100%" height="100%">
<tr>
        <td valign="top" align="center"><br/>
                        <form action="auth.jsp"><table>
                        <tr>
                            <td colspan="2" align="center"><b>Login Page</b></td>
                        </tr>
                        <tr>
                            <td colspan="2" align="center"><b> </td>
                        </tr>
                        <tr>
                             <td>User Name</td>
                             <td><input type="text" name="user"/></td>
                        </tr>
                        <tr>
                             <td>Password</td>
                               <td><input type="password" name="pwd"/></td>
                        </tr>
                        <tr>
                                <td> </td>      <td> </td>
                        </tr>
                        <tr>
                <td colspan="2" align="center"><input type="submit" value="LogIN"/></td>
                        </tr>
                        </table>
                        </form>
        `           </td>
         </tr>
         </table>
         </body>
</html>
```

Auth.jsp:

```
<%@page import="java.sql.*;"%>
<html>    <head>
<title>
This is simple data base example in JSP</title>
</title>
</head>
<body bgcolor="yellow">
<%
String uname=request.getParameter("user");
String pwd=request.getParameter("pwd");
  try
{
    Connection
con=DriverManager.getConnection("jdbc:mysql://localhosr:3306/demo","root","root");
  Statement st=con.createStatement();
  ResultSet rs=st.executeQuery("select name,password from personal where
name='"+uname+"' and password='"+pwd+"'");
  if(rs.next())
{
out.println("Authorized person");
}
else
{
out.println("UnAuthorized person");
}
con.close();
}
catch(Exception e){out.println(""+e);}
%>
</body>
</html>
```

OUTPUT:


Login Page
User Name
pvpsit
Password
LogIN


Address
http://localhost:8080/authjsp/authent.jsp?usr=sunil&pwd=ani
Go
Links
McAfee SiteAdvisor
AUTHORISED USER

14) Create table to store the details of book(book name, price, quantity, amount) and extract data from table and display all books using JSP and JDBC.

PROGRAM:

Retrieve.java:

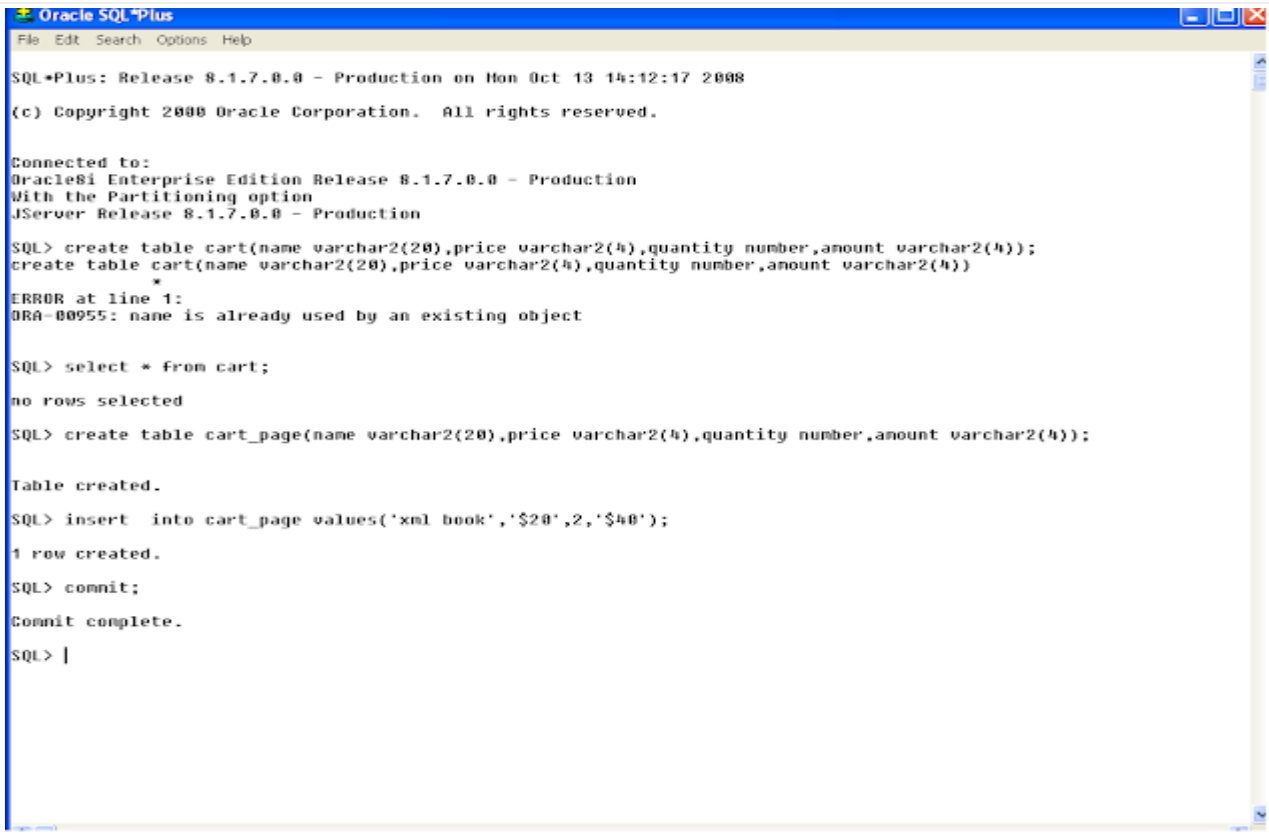
```
import javax.servlet.*;
import javax.servlet.http.*;
import java.sql.*;
import java.io.*;
import java.util.*;
public class Retrieve extends HttpServlet
{
public void service(HttpServletRequest req,HttpServletResponse res) throws
ServletException,IOException
{
res.setContentType("text/html");
PrintWriter out=res.getWriter();
try{
Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/demo","root","root");
Statement s=con.createStatement();
ResultSet r=s.executeQuery("select * from cart");
out.println("<center> <table border=1>");
out.println("<thead> <th> Book name </th> <th> Price </th> <th> Quantity </th> <th> Amount
</th> </thead>");
while(r.next())
{
out.println("<tr> <td> "+r.getString(1)+"</td> ");
out.println("<td> "+r.getString(2)+"</td> ");
out.println("<td> "+r.getInt(3)+"</td> ");
out.println("<td> "+r.getString(4)+"</td> </tr>");
}
out.println("</table></center>");
con.close();
}
catch(SQLException sq)
{
```

```
out.println("sql exception"+sq);
}

catch(ClassNotFoundException cl)
{
out.println("class not found"+cl);
}
}
}
```

web.xml:

```
<web-app>
<servlet>
<servlet-name>set</servlet-name>
<servlet-class>Cartenter</servlet-class>
</servlet>
<servlet>
<servlet-name>display</servlet-name>
<servlet-class>Retrieve</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>set</servlet-name>
<url-pattern>/enterdata</url-pattern>
</servlet-mapping>
<servlet-mapping>
<servlet-name>display</servlet-name>
<url-pattern>/display1</url-pattern>
</servlet-mapping>
</web-app>
```

CREATE THE TABLE AND INSERT VALUES INTO THE TABLE:



OUTPUT: