

8. Write a JSP and Servlet Program to do the following to buy a T-Shirt online:

- a. A set of checkboxes to select your T-Shirt accessories such as 'belt', 'cap', 'hair-band' etc.
- b. A text area / text field to enter your T-Shirt tag-line
- c. A Radio-button that allows the user to choose between T-Shirt with chest pocket and without.
- d. A Combo Box to choose your T-Shirt color
- e. Appropriate labels for these GUI Components
- f. A Button called "Click Me" which when pressed will
- g. Insert the details entered into a table called 'TShirts'.
- h. An OrderNo is generated by adding '1' to the existing 'OrderNo'
- i. If 'TShirts' table is empty the initial value of 'OrderNo' is 100.
- j. This 'OrderNo' is also inserted into the 'TShirts' table
- k. Display all the records of the 'TShirts' table in tabular form

PS: Frontend display should be in JSP and the business logic should be written in Servlet Class.

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.*;
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("/tcon")
public class tcon extends HttpServlet {
    private static final long serialVersionUID = 1L;
```

```
    public tcon() {
        super();
    }
```

```
    protected void service(HttpServletRequest request, HttpServletResponse response)
    throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out=response.getWriter();
        String[] Accessories={};
        Accessories=request.getParameterValues("access");
        String tshirtAccessories="";
```

```

String tshirtTagLine=request.getParameter("tagline");
String tshirtOption=request.getParameter("pocket");
String tcolor=request.getParameter("Tshirtcolor");
out.println("<html>");
out.println("<head><title>T-shirt</title></head>");
out.println("<body>");
try {
Statement stmt;
Class.forName("com.mysql.jdbc.Driver");
Connection conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/tshrit", "root", "");
if (conn != null) {
stmt= conn.createStatement();
String qu;
if(tshirtAccessories!=null && tshirtTagLine!=null && tshirtOption!=null
&& tcolor!=null){
for(String option:Accessories){
tshirtAccessories=tshirtAccessories+option;
}
qu="insert into Tshirts
values("+null+", '"+tshirtTagLine+"', '"+tshirtAccessories+"', '"+tcolor+"', '"+tshirtOption+"')";
stmt.executeUpdate(qu);
}
qu="select * from Tshirts;";
ResultSet rs =stmt.executeQuery(qu);
out.println("<table border=2>");
out.println("<tr>");
out.print("<td>OrderNo</td>");
out.print("<td>T-shirt Accessories</td>");
out.print("<td>T-shirt tag-line</td>");
out.print("<td>T-shirt type</td>");
out.print("<td>T-shirt color</td>");
out.println("</tr>");
if(!rs.isBeforeFirst()){
out.print("<tr>");
out.print("<td>100</td>");
out.print("<td>NULL</td>");
out.print("<td>NULL</td>");
out.print("<td>NULL</td>");
out.print("<td>NULL</td>");
out.println("</tr>");
}
while(rs.next()){
out.println("<tr>");

```

```

out.print("<td>"+(Integer.parseInt(rs.getString("OrderNo"))+100)+"</td>");
        out.print("<td>"+rs.getString("tshritAccessories")+"</td>");
        out.print("<td>"+rs.getString("tshritTagLine")+"</td>");
        out.print("<td>"+rs.getString("tcolor")+"</td>");
        out.print("<td>"+rs.getString("tshritOption")+"</td>");
        out.println("</tr>");
    }
    out.println("</table>");
    out.println("<a href=\"tshrit.jsp\">click here</a>");
    out.println("</body></html>");
}

}

catch (Exception e){
    e.printStackTrace();
}

}
}

```

~~~~~

tshrit.jsp

~~~~~

```

<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<form action="tcon" method="post">
T-Shirt Accessories<input type="checkbox" name="access" value="Belt"/>Belt
<input type="checkbox" name="access" value="Cap"/>Cap
<input type="checkbox" name="access" value="Hair-Band"/>Hair-Band<br>
Tag-Line<input type="text" name="tagline" size="50"/><br>
T-Shirt Feature:<input type="radio" name="pocket" value="ChestPocket"/>Chest Pocket
<input type="radio" name="pocket" value="NoChestPocket"/>No Chest Pocket<br>
T-Shirt Color:<select name="Tshirtcolor">
<option>Blue</option>
<option>Red</option>
<option>Green</option>
</select><br>
<input type="submit" value="Place Orders"/>
</form>
</body>
</html>

```

9. Create a Telephone Directory Application using Servlet that searches the database based on phone number or name. Also show database table creation with inserting 2-3 values to the table.

a. Database Name: OnlineDirectory

b. Table Design:

i. Table Name: Telephone_Directory

ii. Attributes: Phone_Number, Name, Address, Company, Pin_Code.

JDBCLogin.java

~~~~~

```
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.Statement;
import java.sql.DriverManager;
import java.sql.SQLException;
```

```
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
```

```
@SuppressWarnings("serial")
@WebServlet(urlPatterns={"/javaConnection"})
public class JDBCLogin extends HttpServlet {
```

```
    static Connection getConnection() throws Exception {
```

```
        String driver = "com.mysql.jdbc.Driver";
        String url = "jdbc:mysql://localhost/onlineDirectory";
        String username = "root";
        String password = "";
        Class.forName(driver);
        Connection conn = DriverManager.getConnection(url, username, password);
        return conn;
    }
```

```
    public void doGet(HttpServletRequest request, HttpServletResponse response) throws IOException {
```

```
        PrintWriter out = response.getWriter();
        //out.print("Working");
```

```
        boolean flag = false;
        Connection conn = null;
        Statement stmt = null;
        java.sql.ResultSet rs = null;
```

```
        try {
            conn = getConnection();
            stmt = conn.createStatement();
            out.print("Working");
            long inp;
```

```

try
{
    inp = Long.parseLong(request.getParameter("phone"));
    out.println(""+inp);
    rs = stmt.executeQuery("SELECT * FROM tele_dir where contact="+inp);
}
catch(Exception e)
{
    String name=request.getParameter("phone");
    // out.println(""+name);
    rs = stmt.executeQuery("SELECT * FROM tele_dir where name='"+name+"'");

}
if(rs.next()) {
    String name = rs.getString(1);
    long contact = rs.getLong(2);
    String address = rs.getString(3);
    String company = rs.getString(4);
    int pin =rs.getInt(5);
    out.println("name"+name);
    out.println("contact:"+contact);
    out.println("address:"+address);
    out.println("company:"+company);
    out.println("pin:"+pin);

}
else
{
    out.println("no contact found");
}

} catch (ClassNotFoundException e) {
    System.out.println("Error: failed to load MySQL driver.");
    e.printStackTrace();
} catch (SQLException e) {
    System.out.println("Error: failed to create a connection object.");
    e.printStackTrace();
} catch (Exception e) {
    System.out.println("Error: unknown");
    e.printStackTrace();
}

}

finally {
    try {
        stmt.close();
        conn.close();
    } catch (Exception e) {
        e.printStackTrace();
    }
}

```

```

    }
}

}

}
~~~~~
insert1.java
~~~~~
import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.Statement;
import java.sql.DriverManager;
import java.sql.SQLException;

import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@SuppressWarnings("serial")
@WebServlet(urlPatterns = { "/ins" })
public class insert1 extends HttpServlet {

    static Connection getConn() throws Exception {
        String driver = "com.mysql.jdbc.Driver";
        String url = "jdbc:mysql://localhost/onlineDirectory";
        String username = "root";
        String password = "";
        Class.forName(driver);
        Connection conn = DriverManager.getConnection(url, username, password);
        return conn;
    }

    Connection conn1 = null;

    public void doGet(HttpServletRequest request, HttpServletResponse response)
        throws IOException {
        PrintWriter out = response.getWriter();
        // out.print("Working");

        boolean flag = false;
        Connection conn = null;
        Statement stmt = null;
        java.sql.ResultSet rs = null;

        try {
            // conn = getConn();

```

```

String driver = "com.mysql.jdbc.Driver";
String url = "jdbc:mysql://localhost:3306/onedirectory";
String username = "root";
String password = "";
Class.forName(driver);
conn1 = DriverManager.getConnection(url, username,
    password);
if (conn1 != null)
    System.out.println("Successful");
stmt = conn1.createStatement();

out.print("Working");

String name = request.getParameter("nam");
long contact = Long.parseLong(request.getParameter("cnt"));
String address = request.getParameter("address");
String company = request.getParameter("company");
int pin = Integer.parseInt(request.getParameter("pin"));

out.println("name" + name);
out.println("contact:" + contact);
out.println("address:" + address);
out.println("company:" + company);
out.println("pin:" + pin);

stmt.executeUpdate("insert into tele_dir values(" + name + "," + contact + "," + address + "," + company + "," + pin + ");");
out.println("updated the records");

} catch (ClassNotFoundException e) {
    System.out.println("Error: failed to load MySQL driver.");
    e.printStackTrace();
} catch (SQLException e) {
    System.out.println("Error: failed to create a connection object.");
    e.printStackTrace();
} catch (Exception e) {
    System.out.println("Error: unknown");
    e.printStackTrace();
} finally {
    try {
        stmt.close();
        conn1.close();
    } catch (Exception e) {
        e.printStackTrace();
    }
}

}

}

```

```

~~~~~
Index.jsp
~~~~~
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<form action="javaConnection" method="get"/>
Enter name or phone:<input type="text" name="phone" /><br/>
<input type="submit" />
</form>
<a href="insert.html;">insert into directory</a>
</body>
</html>
~~~~~
insert.html
~~~~~
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
<form action="ins" method="get" >
name:<input type="text" name="nam" /><br/>
contact:<input type="text" name="cnt" /><br/>
address:<input type="text" name="address" /><br/>
company:<input type="text" name="company" /><br/>
pincode:<input type="text" name="pin" />
<input type="submit" />
</form>
</body>
</html>

```

**10. Write a Java Program that creates two threads object of Thread class. Where one thread asks the user to enter a number not less than four digits. Split the digits of the number and display in words the value of the number. Ex: 1 – One. Second thread finding the number of vowels in a word. Ex: JAVA – Vowel - A, Count – 2.**

**GetStringThread.java**

```

~~~~~
import java.util.Scanner;

public class GetStringThread extends Thread {

public String string;
public static String vowels = "aeiou";

```



```

public void run() {
Scanner s = new Scanner(System.in);
System.out.println("Enter a string: ");
string = s.next();
int x = 0;
for(char c : string.toCharArray())
for(char ch : vowels.toCharArray())
if(c==ch) x++;
System.out.print(x+" vowels present\n");
}
}

```

~~~~~  
GetNumberThread.java  
~~~~~

```

import java.util.Scanner;

```

```

public class GetNumberThread extends Thread {

public String number;
private static String[] digit = new String[]
{"zero","one","two","three","four","five","six","seven","eight","nine"};
public void run() {
Scanner s = new Scanner(System.in);
System.out.println("Enter number with more than 4 digits: ");
number = s.next();
for(char c : number.toCharArray()) {
if(c<48||c>57) {
System.out.println("Invalid inputs");
break;
}
System.out.print(digit[((int)c-48)]+" ");
}
System.out.print("\n");
}
}

```

~~~~~  
InputThreads.java  
~~~~~

```

public class InputThreads {

 public static void main(String[] args) throws InterruptedException {
 GetStringThread getStringThread;
 GetNumberThread getNumberThread;
 getNumberThread = new GetNumberThread();
 getStringThread = new GetStringThread();
 //getNumberThread.start();
 getStringThread.start();
 Thread.sleep(100);
 //getStringThread.start();
 getNumberThread.start();
 }
}

```

```
}
}
```

**11. Write a program using JSP that helps a student to calculate the income tax on various annual incomes that he will be earning when he gets a job.**

*Login.html* will call *dataCapture.jsp* that should do the following:

- Use Java Collections to make a list of valid users and facilitate user login functionality.
- Give a personalized Welcome message and display today's date.
- Have a Text Entry with label 'Name' to enter the name of the user.
- Give a List of Organizations to choose 'Place of Work'
- Provide a Male or Female option to choose the 'Gender'
- Have a Text Entry with label 'Annual Income'
- Give a Submit button reading 'Calculate Tax'

*CalculateTax.jsp* must calculate the interest based on the following business rules:

- Salary below 1,00,000 shall no have income-tax.
- Calculate 15% of tax on 1,00,001 – 5,00,000.
- Calculate 20% on 5,00,001 onwards.

The final income tax along with the details of how it is calculated must be put in a session object and displayed to the user in *dataCapture.jsp*. All the income taxes calculated so far by the user, must be taken out of the session object and displayed, each time in *dataCapture.jsp* which has a link called 'Logout' that destroys the session.

**Login.jsp:**

```
<!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>Login Page</title>
</head>
<body>
 <form action="dataCapture.jsp" method="post">
 User Name: <input type="text" size="15" name="username">

 Password: <input type="password" size="15" name="password">

 <input type="submit" value="Login">
 </form>
<%
 String reason = request.getParameter("FailReason");
```

```

 if (reason != null)
 out.println(reason);
 %>
</body>
</html>

```

### **dataCapture.jsp:**

```

<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
 pageEncoding="ISO-8859-1" import="java.util.* , java.text.*"%>
<!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>Insert title here</title>
</head>
<body>

```

```

 <%!HashMap hm;
 String uname;
 String pwd;
 Map.Entry entry;
 boolean login = false;
 hm = new HashMap();
 uname = request.getParameter("username");
 pwd = request.getParameter("password");

 hm.put("Archie", "Riverdale");
 hm.put("Haddock", "Marlinspike");
 hm.put("Hermione", "Hogwarts");

 Set s = hm.entrySet();
 Iterator it = s.iterator();

 while (it.hasNext())
 {
 entry = (Map.Entry) it.next();
 if (uname.equals(entry.getKey())
 && pwd.equals(entry.getValue()))
 {
 login = true;
 }
 }
 }//end while

 if (login == true)

```

```

 {
 out.println("");
 out.println("Welcome ");
 out.println(uname);
 DateFormat dateFormat = new SimpleDateFormat(
 "yyyy/MM/dd HH:mm:ss");
 Date date = new Date();
 out.println("
");
 out.println("Today is " + dateFormat.format(date));
 }
 %>

 <form action="CalculateInterest.jsp" method="post">
 First Name: <input type="text"
size="15"
 name="fname">
 Last Name:
 <input type="text" size="15" name="lname">
 Select your Place of Work:
 <select
 name="profession" size="3">
 <option>IT Company</option>
 <option>Private Bank</option>
 <option>Insurance Company</option>
 </select>
 <input type="radio" name="gender" value="Male">
 Male
 <input type="radio" name="gender" value="Female"
checked>Female

 Annual Income(in Rupees): <input
 type="text" size="15" name="income">

 <input
 type="submit" value="Calculate Tax">
 </form>
 <%
 }
 else
 {
 %>
 <jsp:forward page="Login.jsp">
 <jsp:param name="FailReason" value="Wrong Username or Password" />
 </jsp:forward>
 <%
 }
 %>

</body>
</html>

```

### CalculateInterest.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>Calculate Interest JSP</title>
</head>
<body>
 <%
 String fname = request.getParameter("fname");
 String lname = request.getParameter("lname");
 String gender = request.getParameter("gender");
 String profession = request.getParameter("profession");
 String prefix = " ";

 if (gender.equals("Male"))
 {
 prefix = "Mr.";
 } else if (gender.equals("Female"))
 {
 prefix = "Ms.";
 }

 %>
 Hello
 <%=prefix%> <%=fname%> <%=lname%>
 who works in a <%=profession%>

 <%
 String sincome = request.getParameter("income");
 float income = Float.parseFloat(sincome);
 out.println("
Your Annual Income is " + income);

 float tax;
 float diff;

 if (income <= 100000)
 {
 out.println("
You are below the Tax Bracket!!");
 }
 else if (income > 100000 && income <= 200000)
 {
 out.println("Your Tax Bracket is between Rs.1,00000 to Rs.2,00000");
 out.println("
Tax to be paid is 10% of income above 1Lakh");
 diff = income - 100000;
 }
 %>

```

```

 tax = (float) 0.1 * diff;
 out.println("
Tax to be paid is " + tax);
 }
 else if (income > 200000 && income <= 300000)
 {
 out.println("
Your Tax Bracket is between between Rs.1,00000 to
Rs.3,00000");
 out.println("
Tax to be paid is 10% of income upto 1Lakh and 20% of rest of
income");
 diff = income - 200000;
 tax = (float) 0.2 * diff + (float) 0.1 * 100000;
 out.println("
Tax to be paid is " + tax);
 }
 else if (income > 100000 && income <= 400000)
 {
 out.println("
Your Tax Bracket is between Rs.1,00000 to
Rs.4,00000");
 out.println("
Tax to be paid is 10% of income upto 1Lakh 20% of
income upto 3Lakh and 30% of rest of income");
 diff = income - 300000;
 tax = (float) 0.3 * diff + (float) 0.2 * 200000 + (float) 0.1
 * 100000;
 out.println("
Tax to be paid is " + tax);
 }
 else if (income > 400000)
 {
 out.println("
You fall in the tax bracket greater than Rs.4,00000");
 diff = income - 400000;
 tax = diff + (float) 0.3 * 300000 + (float) 0.2 * 200000
 + (float) 0.1 * 100000;
 out.println("
Tax to be paid is 10% of income upto 1Lakh 20% of
income upto 3Lakh, 30% of income upto 4 lakh and 100% of rest of income");
 out.println("
Tax to be paid is " + tax);
 }
} //end if

%>
</body>
</html>

```

**12. a. Create two tables Flight(Flight\_Number, Airline\_Name, Weekdays) and SeatReservation(Flight\_Number, Date, Seat\_Number, Customer\_Name, Customer\_Phone) in MySQL database.**

**b. Create JSP page *ReserveOnline.jsp* to reserve an airline seat and insert the values into the table SeatReservation. OnClick of Submit in *ViewDetails.jsp* display information about**

**reservation. Validate the Flight\_Number from already existing Flight database and generate random number for Seat\_Number within the range 1-500.**

**c. Also create a link to display information of all the flights running on a particular day.**

flightdete.jsp

~~~~~

```
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Insert title here</title>
</head>
<body>
 <form action="flidet.jsp" method="post">
 <p>Enter the day for flight details</p>
 <input type="text" name="fdate" size="10" /> <input type="submit"
 value="Click" />
 </form>
</body>
</html>
```

~~~~~

flidet.jsp

~~~~~

```
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Insert title here</title>
</head>
<body>
 <%
 String fdate = request.getParameter("fdate");
 String url = "jdbc:mysql://localhost/flight";
 String user = "root";
 String password = "";
 Connection connection = null;
 Statement stmt;
 try
 {
 Class.forName("com.mysql.jdbc.Driver").newInstance();
 out.println("hi, Flight details=");
 connection = DriverManager.getConnection(url, user, password);
 if (connection != null)
 {
 stmt = connection.createStatement();
```

```

 String query = " select * from Flight where Weekdays="
 + fldate + """;
 ResultSet re = stmt.executeQuery(query);
 while (re.next())
 {
 out.println(re.getString("Flight_Number") + "\n"
 + re.getString("Airline_Name") + "\n"
 + re.getString("Weekdays") + "\n");
 }
 }
 else
 out.println("Connection refused");
}
catch (Exception e)
{
 out.println(e.getMessage());
}
%>
</body>
</html>
~~~~~
ReserveOnline.jsp
~~~~~
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Insert title here</title>
</head>
<body>
 <%
 out.println("");
 out.println("Welcome ");
 DateFormat dateFormat = new SimpleDateFormat("yyyy/MM/dd HH:mm:ss");
 //Date datess = new Date();
 out.println("
");
 //out.println("Today is "+dateFormat.format(datess));
 %>
 <form action="ViewDetails.jsp" method="post">
 Flight Number: <input type="text"
 size="15" name="fname">
 Date:
 <input type="text" size="15" name="date">
 Customer Name: <input type="text"
size="15"

```



```

 name="custname">
 Customer
 Number: <input type="text" size="15" name="custno">

 <input type="submit" value="Submit form">
 </form>
 </body>
</html>

```

~~~~~

ViewDetails.jsp

~~~~~

```

<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Insert title here</title>
</head>
<body>

```

```

 <%
 String fno1 = request.getParameter("fname");
 int fno = Integer.parseInt(fno1);
 String datea = request.getParameter("date");
 Random rand = new Random();
 int s = rand.nextInt(500);
 String seat = Integer.toString(s);
 String custname = request.getParameter("custname");
 String custno = request.getParameter("custno");
 int fno2 = Integer.parseInt(custno);

```

```

 %>

```

```

 <%
 String url = "jdbc:mysql://localhost/flight";
 String user = "root";
 String password = "";
 Connection connection = null;
 //boolean flag=false;
 String query2;
 boolean h = false;
 Statement stmt;
 try
 {
 Class.forName("com.mysql.jdbc.Driver").newInstance();
 connection = DriverManager.getConnection(url, user, password);
 if (connection != null)
 {
 out.println("Connection created");
 }
 }
 catch (Exception e)
 {
 out.println(e.getMessage());
 }
 %>

```

```

 stmt = connection.createStatement();
 query2 = "select * from Flight where Flight_Number=" + fno
 + """;
 ResultSet rs = stmt.executeQuery(query2);
 while (rs.next())
 {
 h = true;
 }
 if (h)
 {
 out.println("Flight Number:" + fno + "\nDate:" + datea
 + "\nSeatNumber:" + seat +
 "\nCustomerName:"
 + custname + "\nCustNumber:" + custno);
 String query = "insert into SeatReservation values("
 + fno + "," + datea + "," + seat + ","
 + custname + "," + custno + ")";
 stmt.executeUpdate(query);
 out.println("\nDetails inserted");
 }
 else
 {
 out.println("flight number doesnot exist");
 }
 }
 else
 out.println("Connection refused");
}
catch (Exception e)
{
 out.println(e.getMessage());
}
%>
<p>
 click for flight details here
</body>
</html>

```

### Text books

1. Herbert Schildt, 'The Complete Reference Java (J2SE 5 Edition)', TATA McGRAW-HILL Edition 2005.

2. Ivan Bayross, Sharanam Shah, Cyntiha Bayross and Vishali Shah, 'Java EE 5 for Beginners', SPD (Sharoff Publishers & Distributors Pvt. Ltd.), 2<sup>nd</sup> edition August 2008.