# Java Lab Programs

**Q1**

**class** missedCall { String name; String time; String ph;

missedCall(String name,String time,String ph){

**this**.name=name; **this**.time=time; **this**.ph=ph;

}

**public** String toString() {

**return**("Name is "+name+"\n Phone no. is "+ph+"\n time of call is "+time);

}

}

**import** java.util.\*;

**public class** MainClass {

**public static void** main(String args[]) { String name;

Scanner input=**new** Scanner(System.***in***); HashMap<String,String> hm=**new** HashMap<String,String>(); hm.put("1234567890","Sam");

hm.put("5678996666","Amy");

hm.put("3456677789","Roshan"); hm.put("9885645328","Rose");

hm.put("9897862777","ABC");

ArrayList<missedCall> arr=**new** ArrayList<missedCall>(5);

**while**(**true**) {

System.***out***.println("Enter 1 to call ,2 to display ,3 to exit");

**int** ch=input.nextInt();

**switch**(ch) {

**case** 1:

System.***out***.println("Enter the Phone number"); String ph=input.next(); System.***out***.println("Enter the time of call"); String time=input.next();

**if** (hm.containsKey(ph)){ name=hm.get(ph);

}

### else {

}

name="Private caller";

System.***out***.println("Incoming call by "+name); missedCall m=**new** missedCall(name,time,ph); **if**(arr.size()==5) {

arr.remove(0);

}

arr.add(m);

**break**; **case** 2:

**for** (missedCall mc: arr) { System.***out***.println(mc);

}

**for**(**int** i=arr.size()-1;i>=0;i--) { System.***out***.println(arr.get(i).ph); System.***out***.println("Enter 1 to delete call,2 to move on to next,3 to display detials");

**int** c=input.nextInt();

**if**(c==1) {

arr.remove(i);

}

**if**(c==2) {

### continue;

}

**if**(c==3) {

System.***out***.println(arr.get(i));

}

}

**break**; **case** 3:

System.*exit*(0);

**default**:System.***out***.println("Invalid choice");

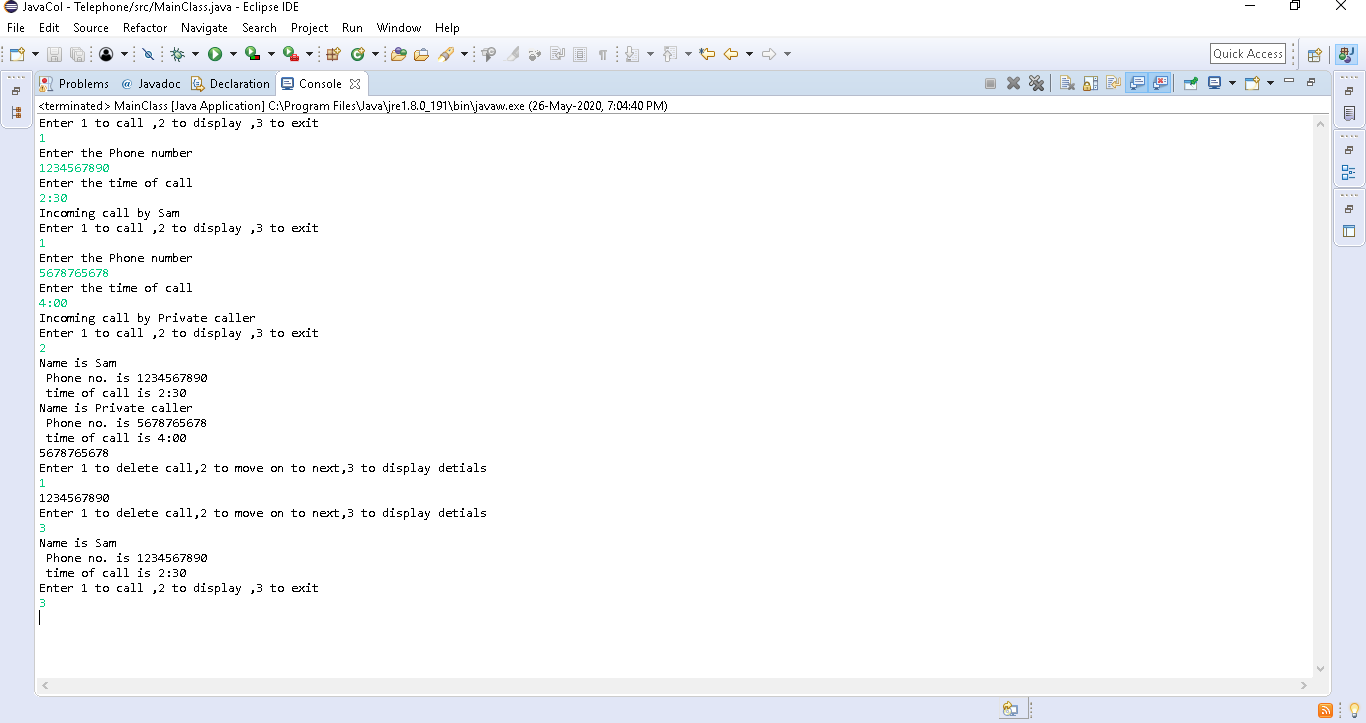
}

}

}

}

### Output:



**Q2**

**class** Book {

String title, author, publisher; Double price;

Book(String t, String aut, String pub, Double pr) { title = t;

author = aut; publisher = pub; price = pr;

}

**public** String toString() {

**return** "Book Details : Title " + title + "\n Author " + author + "\n" + " Publisher " + publisher + "\n"

+ "price " + price;

}

}

**import** java.util.\*;

**class** PriceCompare **implements** Comparator<Book>{

**public int** compare(Book b1,Book b2) {

**return**(**int**)(b1.price-b2.price);

}

}

**import** java.util.\*;

**public class** MainClass {

**public static void** main(String args[]) { Scanner input=**new** Scanner(System.***in***);

ArrayList<Book> al = **new** ArrayList<Book>();

al.add(**new** Book("Dbms basics", "auth1", "pub1", 12345.00)); al.add(**new** Book("Dbms advanced", "auth1", "pub2", 22222.10)); al.add(**new** Book("Java J2EE", "auth2", "pub1", 123.566)); al.add(**new** Book("Machine Learning","auth3","pub3",567.56)); ArrayList<Book> al1 = **new** ArrayList<Book>(al); Collections.*sort*(al1,**new** PriceCompare()); System.***out***.println("\*\*\*\*\*\*\*\*\*\*\*Sorted Collection\*\*\*\*\*\*\*\*\*\*"); **for** (Book b : al1) {

System.***out***.println(b);

}

System.***out***.println(" ");

HashMap<Integer,Book> hm=**new** HashMap<Integer,Book>();

**int** i=0;

**for**(Book b:al1) { hm.put(i, b); i++;

}

Set<Map.Entry<Integer, Book>> set1=hm.entrySet();

System.***out***.println("Enter author name"); String name=input.next(); **for**(Map.Entry<Integer, Book> setv:set1) {

**if**(setv.getValue().author.equals(name)) { System.***out***.println(setv.getValue());

}

}

System.***out***.println("Enter price"); **double** amt=input.nextDouble(); ArrayList<Book> ar=**new** ArrayList<Book>(); **for**(Map.Entry<Integer, Book> setv:set1) {

**if**(setv.getValue().price>amt) { ar.add(setv.getValue());

}

}

**for**(Book b1:ar) { System.***out***.println(b1);

}

System.***out***.println("Enter title"); String t=input.next(); **for**(Map.Entry<Integer, Book> setv:set1) {

**if**(setv.getValue().title.contains(t)) { System.***out***.println(setv.getValue());

}

}

System.***out***.println("Enter Publisher");

String str=input.next();

**for**(Map.Entry<Integer, Book> setv:set1) {

**if**(setv.getValue().publisher.equals(str)) { System.***out***.println(setv.getValue());

}

}

System.***out***.println("Enter title for which you want to update publisher"); input.nextLine();

String t1=input.nextLine();

**for**(Map.Entry<Integer, Book> setv:set1) {

**if**(setv.getValue().title.equals(t1)) { setv.getValue().publisher="New\_one"; hm.put(setv.getKey(),setv.getValue());

}

}

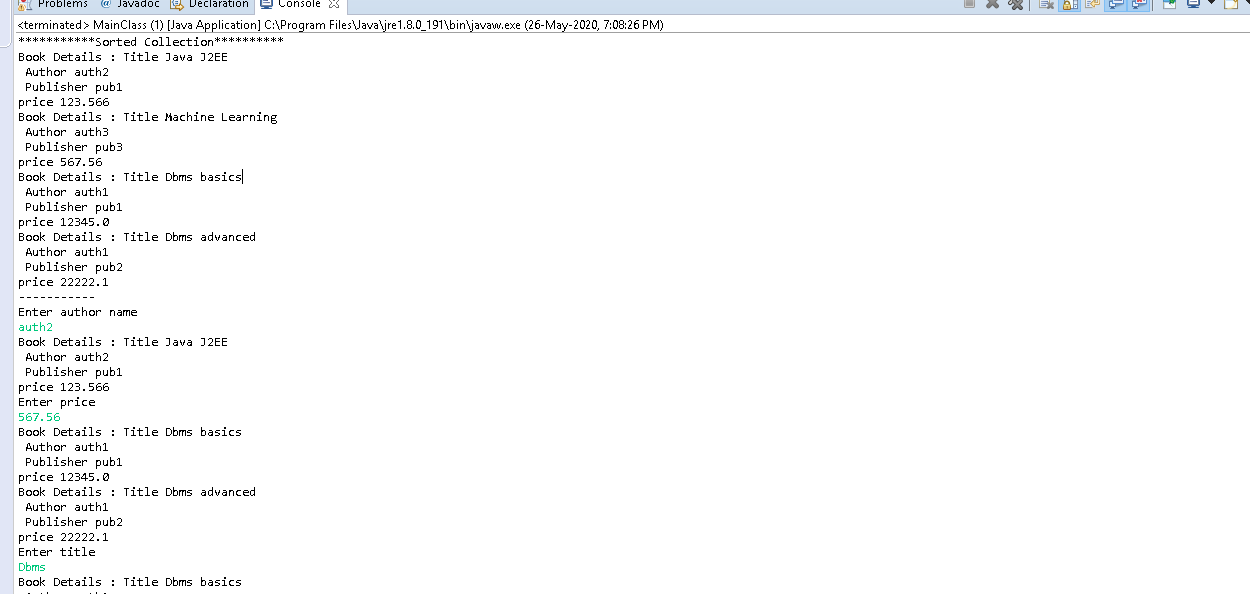
**for**(Map.Entry<Integer, Book> setv:set1) { System.***out***.println(setv.getValue());

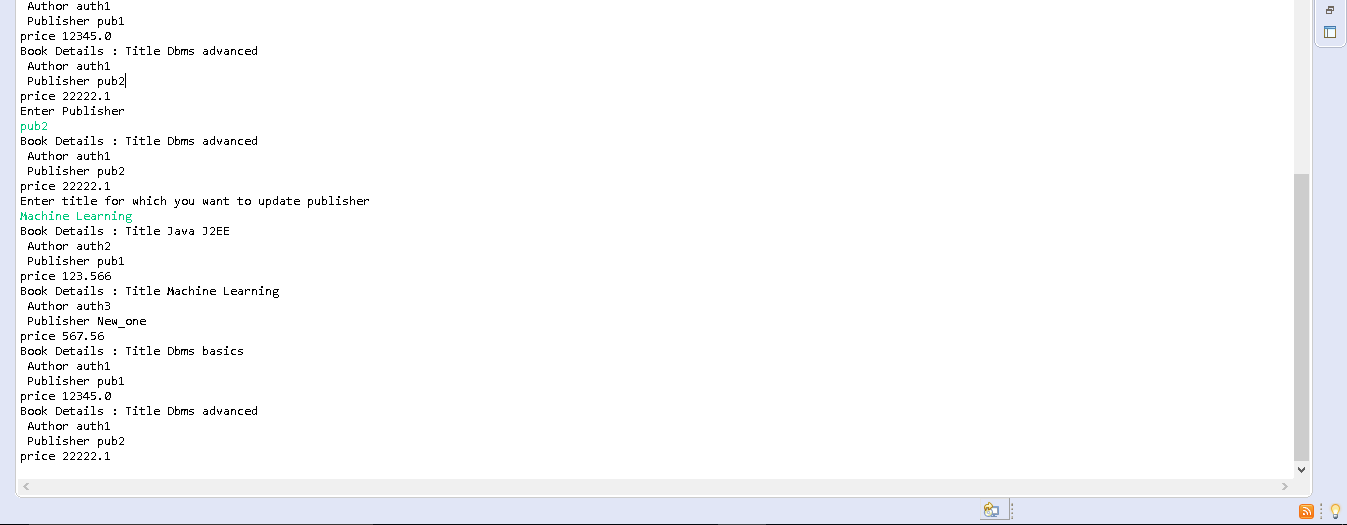
}

}

}

### Output:





**Q3**

**class** Student {

String name; String address,usn; **int** age;

Student(String name,String address,String usn,**int** age){

**this**.name=name; **this**.age=age; **this**.address=address; **this**.usn=usn;

}

**public** String toString() {

**return** "Name : "+name+"\nAge : "+age+"\nAddress : "+address+"\n Usn

: "+usn;

}

}

**import** javax.swing.\*; **import** java.util.\*; **import** java.awt.\*; **import** java.awt.event.\*;

**public class** Swingg **implements** ActionListener { ArrayList<Student> arr=**new** ArrayList<Student>(); **static** JFrame *frm*,*frm1*;

JTextField name,usn,address,age,sgpa; JButton compute,done,ADDSgpa; JTextArea jt;

**double** cgpa;

**double** a[]=**new double**[8]; Swingg(){

*frm*=**new** JFrame("Enter details"); *frm1*=**new** JFrame("Display details"); JLabel nam=**new** JLabel("Enter name"); JLabel ag=**new** JLabel("Enter age"); JLabel add=**new** JLabel("Enter address");

JLabel us=**new** JLabel("Enter usn"); jt=**new** JTextArea(100,100); name=**new** JTextField(20);

age=**new** JTextField(20); address=**new** JTextField(20); usn=**new** JTextField(20); compute=**new** JButton("Compute"); ADDSgpa=**new** JButton("Enter sgpa");

done=**new** JButton("Display details");

*frm*.add(nam); *frm*.add(name); *frm*.add(ag);

*frm*.add(age);

*frm*.add(add); *frm*.add(address); *frm*.add(us);

*frm*.add(usn); *frm*.add(compute); *frm*.add(ADDSgpa); *frm*.add(done); *frm1*.add(jt);

ADDSgpa.addActionListener(**this**); compute.addActionListener(**this**); done.addActionListener(**this**);

}

**public void** actionPerformed(ActionEvent evt) {

**if**(evt.getSource()==ADDSgpa) { sgpa=**new** JTextField();

**for**(**int** i=0;i<8;i++) {

String str=Integer.*toString*(i+1);

**int** option=JOptionPane.*showConfirmDialog*(**null**,

sgpa,"ENTER SGPA"+str,JOptionPane.***OK\_CANCEL\_OPTION***);

**if**(option==JOptionPane.***OK\_OPTION***) {

**if**(Double.*parseDouble*(sgpa.getText())>10)

{

JOptionPane.*showMessageDialog*(**null**,"Sgpa incorrect,re enter");

option=JOptionPane.*showConfirmDialog*(**null**, sgpa,"ENTER SGPA"+str,JOptionPane.***OK\_CANCEL\_OPTION***);

}

**else** { a[i]=Double.*parseDouble*(sgpa.getText());

}

sgpa.setText("");

}

}

}

**if**(evt.getSource()==compute) {

**double** sum=0.0;

**for**(**int** i=0;i<8;i++) { sum=sum+a[i];

}

cgpa=sum/8; JOptionPane.*showMessageDialog*(**null**,cgpa);

}

**if**(evt.getSource()==done) {

**int** age1=Integer.*parseInt*(age.getText());

**if**(age1<17) {

JOptionPane.*showMessageDialog*(**null**,"Invalid age,re enter");

}

**else if**(cgpa==0.0||name.getText().equals("")||age.getText().equals("")||usn.getText().e quals("")||address.getText().equals("")) {

JOptionPane.*showMessageDialog*(**null**,"Enter all the fields");

}

### else {

String name1=name.getText(); String address1=address.getText(); String usn1=usn.getText();

Student s=**new** Student(name1,address1,usn1,age1); arr.add(s);

jt.setText("");

**for**(Student c :arr) {

jt.append(c+"\n");

}

jt.append("CGPA:"+cgpa);

}

}

}

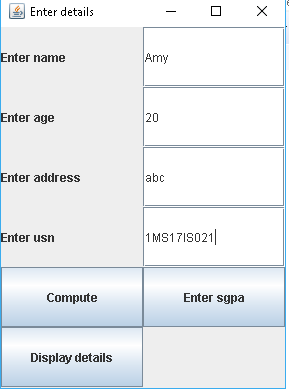
**public static void** main(String args[]) { Swingg obj=**new** Swingg(); *frm*.setVisible(**true**); *frm*.setSize(300,400);

*frm*.setLayout(**new** GridLayout(6,1)); *frm1*.setVisible(**true**); *frm1*.setSize(300,400);

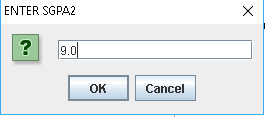
}

}

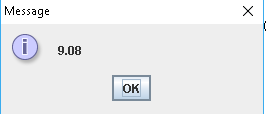
### Output



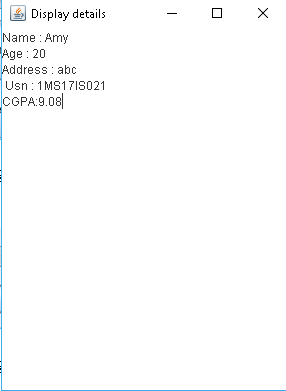
//On clicking ‘Enter sgpa’ 8 sgpas have to be enetered



//On clicking Compute the computed cgpa is displayed



//On clicking Display details



**Q4**

**public class** Item {

String name,id;**int** price;

Item(String name,String id,**int** price){

**this**.name=name; **this**.id=id; **this**.price=price;

}

**public** String toString() {

**return**("ItemName "+name+" ItemId: "+id+" ItemPrice : "+price);

}

}

**import** javax.swing.\*; **import** java.awt.\*; **import** java.awt.event.\*; **import** java.util.HashMap; **import** java.util.\*;

**public class** Shop **implements** ActionListener { String user="Amy";String pass="1234"; String un="";String pw;**int** id; JTextField userid,phno,Itemid,quan,name; JButton submit;

**double** total=0.0;

**static** HashMap<Long,Integer>*users*=**new** HashMap<Long,Integer>();

**static** ArrayList<Item> *it*=**new** ArrayList<Item>(); Shop(){

**while**(!un.equals(user)|| !pw.equals(pass)) { un=JOptionPane.*showInputDialog*(**null**,"Enter username"); **if**(!un.equals(user)) {

JOptionPane.*showMessageDialog*(**null**, "Invalid user");

}

### else {

**if**(un.equals(user)) {

pw=JOptionPane.*showInputDialog*(**null**,"Enter password");

**if**(pw.equals(pass)) {

### break;

}

### else {

JOptionPane.*showMessageDialog*(**null**, "Invalid pass");

}

}

}

}

**long** ph=Long.*parseLong*(JOptionPane.*showInputDialog*(**null**,"Enter phno"));

**if**(*users*.containsKey(ph)) { id=*users*.get(ph);

JOptionPane.*showMessageDialog*(**null**, "Welcome"+id);

}

### else {

id=Integer.*parseInt*(JOptionPane.*showInputDialog*(**null**,"New user,Enter new id"));

*users*.put(ph,id);

}

JFrame frm=**new** JFrame("Details"); JLabel name1=**new** JLabel("User"); JLabel ph1=**new** JLabel("Pn"); JLabel id1=**new** JLabel("Itemid"); JLabel q1=**new** JLabel("Quant"); JLabel n1=**new** JLabel("It\_name"); userid=**new** JTextField(20); phno=**new** JTextField(20); Itemid=**new** JTextField(20); quan=**new** JTextField(20);

name=**new** JTextField(20); submit=**new** JButton("Submit"); frm.add(name1);frm.add(userid);

userid.setText(String.*valueOf*(id)); userid.setEditable(**false**); frm.add(ph1);frm.add(phno); phno.setText(String.*valueOf*(ph)); frm.add(id1);frm.add(Itemid); frm.add(q1);frm.add(quan);

frm.add(n1);frm.add(name); frm.add(submit); submit.addActionListener(**this**); frm.setSize(300,300); frm.setVisible(**true**); frm.setLayout(**new** GridLayout(6,2));

}

**public void** actionPerformed(ActionEvent evt) { String itid=Itemid.getText();

**int** itq=Integer.*parseInt*(quan.getText()); String itna=name.getText();

String discounts[]= {"5","10","15"};

**int** r=JOptionPane.*showOptionDialog*(**null**, "select disc","Disc",JOptionPane.***DEFAULT\_OPTION***,JOptionPane.***QUESTION\_MESSAGE***,**null**,discount s,discounts[0]);

**for**(Item ii :*it*) {

**if**(ii.id.equals(itid)) {

total=itq\*ii.price;

}

}

total=total-(total\*0.01\*Integer.*parseInt*(discounts[r])); String t=String.*valueOf*(total); JOptionPane.*showMessageDialog*(**null**,"Total for "+itna+" is"+t);

}

**public static void** main(String args[]) { *users*.put((**long**) 1234567890,1); *it*.add(**new** Item("Bat","1",5000));

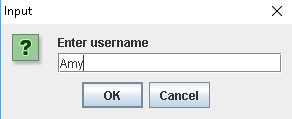
*it*.add(**new** Item("Gloves","2",2000));

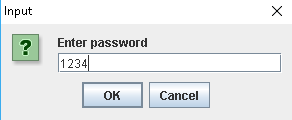
*it*.add(**new** Item("Ball","3",600)); Shop obj=**new** Shop();

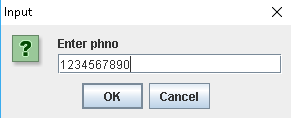
}

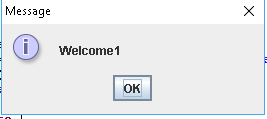
}

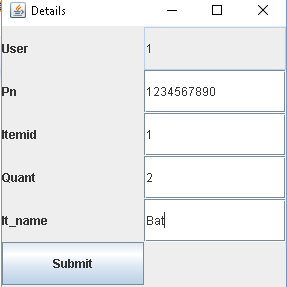
### Output





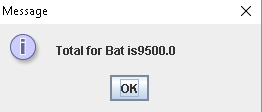








//On choosing 5



**Q5**

**import** java.sql.\*;

**import** java.awt.GridLayout;

**import** java.awt.event.\*;

**import** javax.swing.\*;

**public class** Q5 **extends** JFrame **implements** ActionListener{

JTextField repno,repname,state,comm,rate,cust\_no,cust\_name,cred,repno1,repname1,state1,comm1, rate1;

JButton submit,display; ResultSet rs; Connection con;

PreparedStatement ps,ps1; Statement st;

Q5(){

**super**("Enter details");

JLabel r=**new** JLabel("Enter repno"); repno=**new** JTextField(20); repname=**new** JTextField(20); state=**new** JTextField(20);

comm=**new** JTextField(20); rate=**new** JTextField(20); cust\_no=**new** JTextField(20); cust\_name=**new** JTextField(20); cred=**new** JTextField(20);

JLabel r1=**new** JLabel("Enter repname"); JLabel r2=**new** JLabel("Enter state"); JLabel r3=**new** JLabel("Enter comm"); JLabel r4=**new** JLabel("Enter rate"); JLabel r5=**new** JLabel("Enter cust\_no"); JLabel r6=**new** JLabel("Enter cust\_name"); JLabel r7=**new** JLabel("Enter credit"); submit=**new** JButton("submit"); display=**new** JButton("Display");

add(r); add(repno); add(r1); add(repname); add(r2); add(state); add(r3); add(comm); add(r4); add(rate);

add(r5);add(cust\_no); add(r6);add(cust\_name); add(r7);add(cred); add(submit); add(display);

submit.addActionListener(**this**); display.addActionListener(**this**); **try** {

Class.*forName*("com.mysql.cj.jdbc.Driver");

} **catch** (ClassNotFoundException e1) {

// **TODO** Auto-generated catch block e1.printStackTrace();

}

### try {

con=DriverManager.*getConnection*("jdbc:mysql://localhost:3306/Representative ","root","password");

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

}

**public void** actionPerformed(ActionEvent evt){

**if**(evt.getSource()==submit){

**int** repn=Integer.*parseInt*(repno.getText()); String repna=repname.getText();

String sta=state.getText();

String com=comm.getText(); String rat=rate.getText();

**int** custn=Integer.*parseInt*(cust\_no.getText()); String custna=cust\_name.getText();

String cre=cred.getText();

String query="insert into Rep values(?,?,?,?,?)";

### try {

ps = con.prepareStatement(query);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps.setInt(1, repn);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps.setString(2, repna);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps.setString(3, sta);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps.setString(4, com);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps.setString(5, rat);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

**int** i=ps.executeUpdate();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

String query1="insert into Cust values(?,?,?,?,?)";

### try {

ps1 = con.prepareStatement(query1);

} **catch** (SQLException e1) {

// **TODO** Auto-generated catch block e1.printStackTrace();

}

### try {

ps1.setInt(1, custn);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps1.setString(2, custna);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps1.setString(3, sta);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps1.setString(4, cre);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

ps1.setInt(5, repn);

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

**int** i=ps1.executeUpdate();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

}

### else{

**try** { st=con.createStatement();

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

### try {

rs=st.executeQuery("select \* from Rep where repno in(select repno from Cust where cred>1500)" );

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

**if**(rs!=**null**){

### try {

**while**(rs.next()){

JFrame frm=**new** JFrame("Print"); JLabel s5=**new** JLabel("repno"); JLabel s1=**new** JLabel("repname"); JLabel s2=**new** JLabel("state"); JLabel s3=**new** JLabel("comm");

JLabel s4=**new** JLabel("rate"); repno1=**new** JTextField(20); repname1=**new** JTextField(20); state1=**new** JTextField(20); comm1=**new** JTextField(20); rate1=**new** JTextField(20); frm.add(s5); frm.add(repno1); frm.add(s1); frm.add(repname1); frm.add(s2); frm.add(state1); frm.add(s3);

frm.add(comm1); frm.add(s4); frm.add(rate1);

repno1.setText(String.*valueOf*(rs.getInt(1)));

repname1.setText(rs.getString(2)); state1.setText(rs.getString(3)); comm1.setText(rs.getString(4)); rate1.setText(rs.getString(5)); frm.setVisible(**true**); frm.setSize(300,300); frm.setLayout(**new** GridLayout(2,10));

}

} **catch** (SQLException e) {

// **TODO** Auto-generated catch block e.printStackTrace();

}

}

}

}

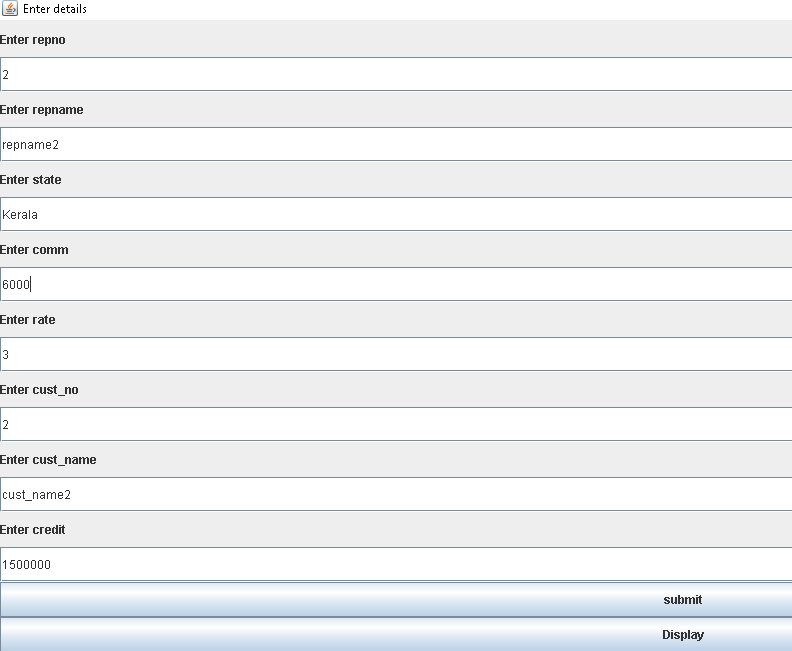
**public static void** main(String args[]){ Q5 obj=**new** Q5(); obj.setVisible(**true**); obj.setSize(300,300);

obj.setLayout(**new** GridLayout(20,2));

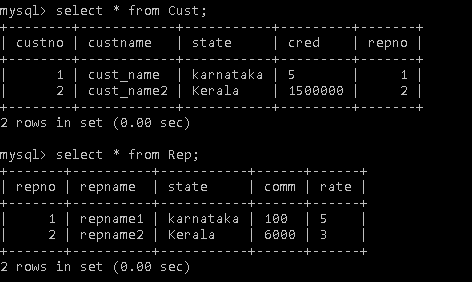
}

}

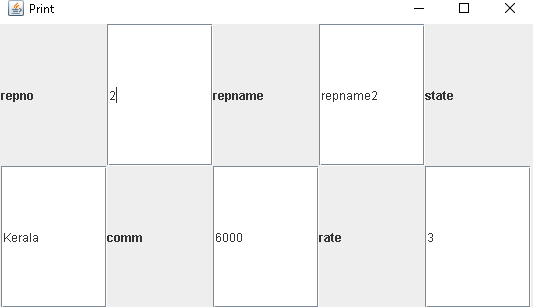
### Output



//On clicking on Submit



//On clicking on Display



**Q6**

**import** java.io.File;

**import** java.io.FileOutputStream; **import** java.io.IOException; **import** java.io.PrintWriter;

**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("/ITReturns")

**public class** ITReturns **extends** HttpServlet {

**private static final long** *serialVersionUID* = 1L;

**public** ITReturns() {

**super**();

}

**protected void** doGet(HttpServletRequest request, HttpServletResponse response) **throws**

ServletException, IOException {

String name=request.getParameter("name"); String gender=request.getParameter("gender"); String salary=request.getParameter("salary"); String tax=request.getParameter("tax"); PrintWriter out=response.getWriter();

File file = **new** File("./it.txt"); file.createNewFile();

FileOutputStream fout = **new** FileOutputStream(file); out.println(""+name+" "+gender+" "+salary+" "+tax); fout.write(("hello"+name+gender+salary+tax).getBytes()); fout.close();

}

**protected void** doPost(HttpServletRequest request, HttpServletResponse response) **throws**

ServletException, IOException {

}

}

# details.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"](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>

<form action=*"ITReturns"* method=*"get"* > name:<input type=*"text"* name=*"name"*/>

<select name=*"gender"*>

<option>male</option>

<option>fe</option>

</select>

sal:<input type=*"text"* name=*"salary"*/> tax:<input type=*"text"* name=*"tax"*/>

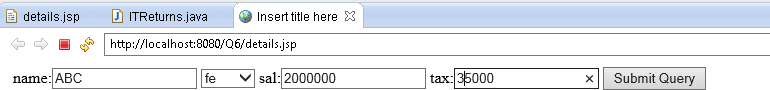
<input type=*"submit"*/>

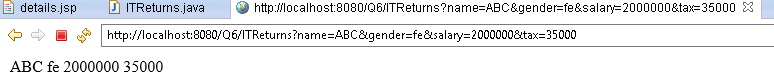
</form>

</body>

</html>

### Output





Q7

index.html

<!DOCTYPE html>

<html>

<head>

<meta charset=*"ISO-8859-1"*>

<title>Patients DB</title>

</head>

<body>

<h1>Add New Patient</h1>

<form action=*"InsertServlet"* method=*"post"*>

<table>

<tr><td>PatID:</td><td><input type=*"text"* name=*"id"*/></td></tr>

<tr><td>Name:</td><td><input type=*"text"* name=*"name"*/></td></tr>

<tr><td>Age:</td><td><input type=*"number"* name=*"age"*/></td></tr>

<tr><td>Date of admission(yyyy-MM-dd):</td><td><input type=*"date"* name=*"date"*/></td></tr>

<tr><td>Cause of admission:</td><td><input type=*"text"* name=*"cause"*/></td></tr>

<tr><td>Doctor diagnosed:</td><td><input type=*"text"* name=*"doc"*/></td></tr>

<tr><td>Treatment proposed:</td><td><input type=*"text"* name=*"treat"*/></td></tr>

<tr><td colspan=*"2"*><input type=*"submit"* value=*"Add"*/></td></tr>

</table>

</form>

<br>

</body>

</html>

InsertServlet.java

**import** java.io.IOException; **import** java.io.PrintWriter; **import** java.sql.Connection; **import** java.sql.PreparedStatement; **import** java.sql.\*;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.http.\*;

**import** javax.servlet.ServletException; **import** javax.servlet.annotation.WebServlet; **import** javax.servlet.http.HttpServlet;

**import** javax.servlet.http.HttpServletRequest; **import** javax.servlet.http.HttpServletResponse; **import** javax.servlet.http.HttpSession;

@WebServlet("/InsertServlet")

**public class** InsertServlet **extends** HttpServlet{

**private static final long** *serialVersionUID* = 1L;

**protected void** doPost(HttpServletRequest request, HttpServletResponse response)

**throws** ServletException, IOException

{

**try** { Class.*forName*("com.mysql.cj.jdbc.Driver");

Connection

con=DriverManager.*getConnection*("jdbc:mysql://localhost:3306/people", "root", "password");

String id=(request.getParameter("id")); System.*out*.println(id);

String name=(request.getParameter("name"));

### int

age=Integer.*parseInt*(request.getParameter("age"));

String date=(request.getParameter("date"));

String cause=(request.getParameter("cause"));

String doc=(request.getParameter("doc"));

String treatment=(request.getParameter("treat"));

PreparedStatement st = con.prepareStatement("insert into patientdb values(?,?,?,?,?,?,?)");

st.setString(1,id); st.setString(2,name); st.setInt(3,age); st.setString(4,date); st.setString(5, cause); st.setString(6,doc); st.setString(7,treatment);

st.executeUpdate(); st.close();

con.close();

HttpSession session=request.getSession(); session.setAttribute("id",id);

//RequestDispatcher req=request.getRequestDispatcher("display.jsp");

//req.forward(request,response); response.sendRedirect("display.jsp");

}

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

}

}

}

## display.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"](http://www.w3.org/TR/html4/loose.dtd)>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=ISO-8859-1"*>

<title>Options</title>

</head>

<body>

<h2>Form to display</h2>

<form action=*"view"* method=*"post"*>

Enter PatId:<input type=*number*" name=*"id"* />

<input type=*"submit"* name=*"Submit"*/>

</form>

<br><br>

<h2>Form to delete</h2>

<form action=*"delete"* method=*"post"*>

<input type=*number*" name=*"id"*/>

<input type=*"submit"* name=*"Submit"*/>

</form><br>

<h2>Form to update</h2>

<form action=*"update"* method=*"post"*>

<table>

<tr><td>PatID:</td><td><input type=*"text"* name=*"id"*/></td></tr>

<tr><td>Name:</td><td><input type=*"text"* name=*"name"*/></td></tr>

<tr><td>Age:</td><td><input type=*"number"* name=*"age"*/></td></tr>

<tr><td>Date of admission(yyyy-MM-dd):</td><td><input type=*"date"* name=*"date"*/></td></tr>

<tr><td>Cause of admission:</td><td><input type=*"text"* name=*"cause"*/></td></tr>

<tr><td>Doctor diagnosed:</td><td><input type=*"text"* name=*"doc"*/></td></tr>

<tr><td>Treatment proposed:</td><td><input type=*"text"* name=*"treat"*/></td></tr>

<tr><td colspan=*"2"*><input type=*"submit"* value=*"Update"*/></td></tr>

</table>

</form>

</body>

</html>

## view.java

**import** java.io.IOException; **import** java.io.PrintWriter; **import** java.sql.\*;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.http.\*;

**import** javax.servlet.ServletException; **import** javax.servlet.annotation.WebServlet; **import** javax.servlet.http.HttpServlet; **import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

@WebServlet("/view")

**public class** view **extends** HttpServlet{

**private static final long** *serialVersionUID* = 1L;

**protected void** doPost(HttpServletRequest request, HttpServletResponse response)

**throws** ServletException, IOException

### null;

{

String name = **null**,doc = **null**,treat = **null**,date = **null**,cause =

**int** age = 0;

**try** { Class.*forName*("com.mysql.cj.jdbc.Driver");

Connection

con=DriverManager.*getConnection*("jdbc:mysql://localhost:3306/people", "root", "password");

### int

id=Integer.*parseInt*(request.getParameter("id"));

patientdb where id="+id);

Statement st=con.createStatement(); ResultSet rs=st.executeQuery("select \* from

**while**(rs.next()){

name=rs.getString(2); age=rs.getInt(3); date=rs.getString(4);

cause=rs.getString(5); doc=rs.getString(6); treat=rs.getString(7);

}

details</h1>");

con.close(); response.setContentType("text/html");

PrintWriter out=response.getWriter(); out.println("<html><h1>Patient

out.println("<p>"+name+"<br>"+age+"<br>"+date+"<br>"+cause+"<br>"+doc+"<br> "+treat+"</p></html>");

//response.sendRedirect("display.jsp");

//RequestDispatcher req=request.getRequestDispatcher("display.jsp");

//req.forward(request,response);

}

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

}

}

}

## delete.java

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.sql.\*;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.http.\*;

**import** javax.servlet.ServletException; **import** javax.servlet.annotation.WebServlet; **import** javax.servlet.http.HttpServlet; **import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

@WebServlet("/delete")

**public class** delete **extends** HttpServlet{

**private static final long** *serialVersionUID* = 1L;

**protected void** doPost(HttpServletRequest request, HttpServletResponse response)

**throws** ServletException, IOException

{

### try {

Class.*forName*("com.mysql.cj.jdbc.Driver");

Connection con=DriverManager.*getConnection*("jdbc:mysql://localhost:3306/people", "root", "password");

### int

id=Integer.*parseInt*(request.getParameter("id"));

System.*out*.println(id);

PreparedStatement st=con.prepareStatement("delete from patientdb where id="+id);

**int** j=st.executeUpdate();

con.close();

response.sendRedirect("display.jsp");

//RequestDispatcher req=request.getRequestDispatcher("display.jsp");

//req.forward(request,response);

}

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

}

}

}

## update.java

**import** java.io.IOException;

**import** java.io.PrintWriter;

**import** java.sql.\*;

**import** javax.servlet.RequestDispatcher;

**import** javax.servlet.http.\*;

**import** javax.servlet.ServletException; **import** javax.servlet.annotation.WebServlet; **import** javax.servlet.http.HttpServlet; **import** javax.servlet.http.HttpServletRequest;

**import** javax.servlet.http.HttpServletResponse;

**import** javax.servlet.http.HttpSession;

@WebServlet("/update")

**public class** update **extends** HttpServlet{

**private static final long** *serialVersionUID* = 1L;

**protected void** doPost(HttpServletRequest request, HttpServletResponse response)

**throws** ServletException, IOException

{

**try** { Class.*forName*("com.mysql.cj.jdbc.Driver");

Connection

con=DriverManager.*getConnection*("jdbc:mysql://localhost:3306/people", "root", "password");

### int

id=Integer.*parseInt*(request.getParameter("id"));

### int

age=Integer.*parseInt*(request.getParameter("age"));

System.*out*.println(id);

PreparedStatement st = con.prepareStatement("update patientdb set name=?,age=?,date=?,cause=?,doctor=?,treatment=? where id="+id);

st.setString(1,request.getParameter("name"));

st.setInt(2,age); st.setString(3,request.getParameter("date")); st.setString(4,request.getParameter("cause")); st.setString(5,request.getParameter("doc"));

st.setString(6,request.getParameter("treat"));

st.executeUpdate(); st.close();

con.close();

response.sendRedirect("display.jsp");

//RequestDispatcher req=request.getRequestDispatcher("display.jsp");

//req.forward(request,response);

}

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

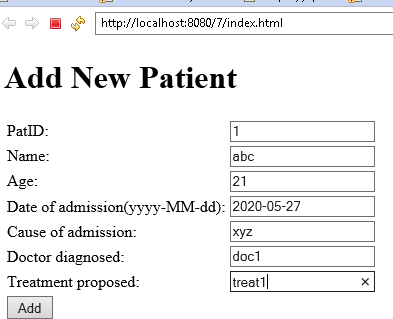
}

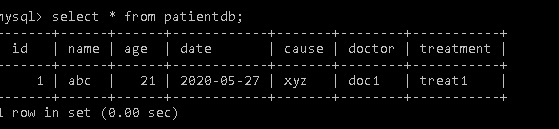
}

}

### Output

//insert details



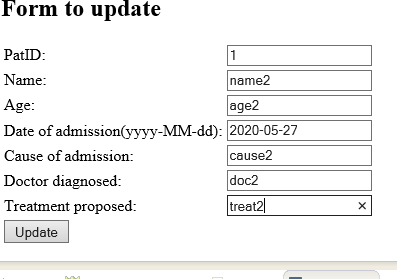


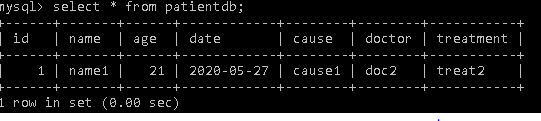
//display details





//updating





//on deleting



Q8

**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("/tdetails")

**public class** tdetails **extends** HttpServlet {

**private static final long** *serialVersionUID* = 1L;

**public** tdetails() {

**super**();

}

**protected void** doPost(HttpServletRequest request, HttpServletResponse response)

**throws** ServletException, IOException {

response.setContentType("text/html"); PrintWriter out=response.getWriter(); String[] Accessories={};

Accessories=request.getParameterValues("access"); System.*out*.println("Accessories");

String tshirtAccessories="";

String tshirtTagLine=request.getParameter("tagline"); String tshirtOption=request.getParameter("pocket"); System.*out*.println(tshirtOption);

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.cj.jdbc.Driver"); Connection conn =

DriverManager.*getConnection*("jdbc:mysql://localhost:3306/tshirt", "root", "password");

**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 tee values(0,'"+tshirtTagLine+"','"+tshirtAccessories+"','"+tcolor+"','"+tshirt Option+"');";

stmt.executeUpdate(qu);

}

qu="select \* from tee;";

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.print("<td>NULL</td>"); out.println("</tr>");

}

**while**(rs.next()){ out.println("<tr>");

out.print("<td>"+((rs.getInt("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();

}

}

}

## tshirt.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"](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>

<form action=*"tdetails"* method=*"post"*>

T-Shirt Accessories<input type=*"checkbox"* name=*"access"* value=*"Belt"*/>Belt

Band<br>

<input type=*"checkbox"* name=*"access"* value=*"Cap"*/>Cap

<input type=*"checkbox"* name=*"access"* value=*"Hair-Band"*/>Hair-

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>

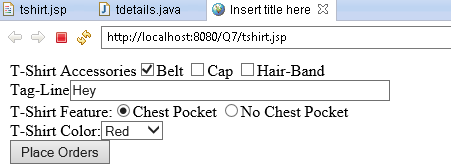
<input type=*"submit"* value=*"Place Orders"*/>

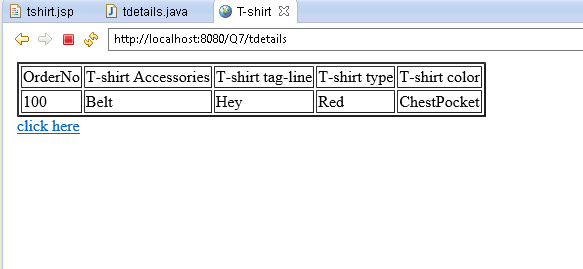
</form>

</body>

</html>

### Output





Q9

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.cj.jdbc.Driver";

String url = "jdbc:mysql://localhost/onlinedirectory";

String username = "root"; String password = "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 = "";

password);

}

Class.*forName*(driver);

Connection conn = DriverManager.*getConnection*(url, username,

**return** conn;

Connection conn1 = **null**;

**public void** doGet(HttpServletRequest request, HttpServletResponse response)

**throws** IOException {

PrintWriter out = response.getWriter();

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

String driver = "com.mysql.cj.jdbc.Driver";

String url = "jdbc:mysql://localhost:3306/onlinedirectory"; String username = "root";

String password = "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

<%@ 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"](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>

<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

<!DOCTYPE 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"* />

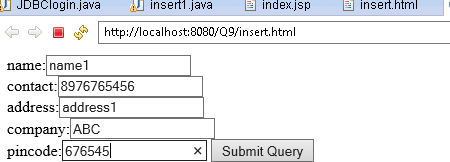
<input type=*"submit"* />

</form>

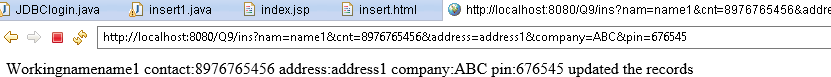
</body>

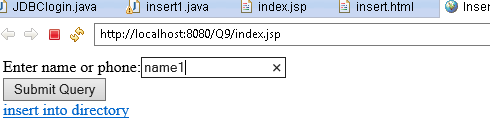
</html>

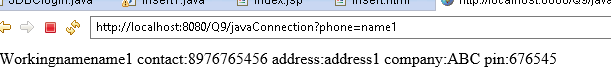
### Output



//On clicking on Submit Query







Q10

login.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"](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>

<form action=*"dataCapture.jsp"* method=*"post"*> Name: <input type=*"text"* name=*"name"*> Password: <input type=*"text"* name=*"pass"*>

<input type=*"submit"*>

</form>

</body>

</html>

## dataCapture.jsp

<%@ page import=*"java.util.\*"*%>

<%@ page import=*"java.io.\*"*%>

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" ["http://www.w3.org/TR/html4/loose.dtd"](http://www.w3.org/TR/html4/loose.dtd)>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<%

HashMap<String, String> hm = **new** HashMap<String, String>(); hm.put("name1", "pass1");

hm.put("name2", "pass2");

String name = request.getParameter("name"); String pass = request.getParameter("pass"); PrintWriter pout = response.getWriter();

**if** (hm.containsKey(name) && pass.equals(hm.get(name))) { pout.println("Welcome " + name + "\n"); pout.println(**new** Date());

%>

<form action=*"CalculateInterest.jsp"* method=*"get"*> Name : <input type=*"text"* name=*"name"*> Profession <select name=*"prof"*>

<option>Engineer</option>

<option>Doctor</option>

</select><br> Gender <select name=*"gender"*>

<option>Male</option>

<option>Female</option>

</select>

AnnualIncome: <input type=*"text"* name=*"salary"*> CalculateTax<input type=*"submit"*>

</form>

<%

} **else** {

%>

<jsp:forward page=*"login.jsp"*></jsp:forward>

<%

}

%>

</body>

</html>

## calculateInterest.jsp

<%@page import=*"java.io.\*"*%>

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" ["http://www.w3.org/TR/html4/loose.dtd"](http://www.w3.org/TR/html4/loose.dtd)>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<%

PrintWriter pout = response.getWriter();

**int** income = Integer.parseInt(request.getParameter("salary"));

**double** tax = 0;

**if**(income <= 100000){

}

**if**(income>100000 && income<500000){ tax = (income-100000)\*0.15;

}

**if**(income > 500000){

tax = (income-500000)\*0.20 + 400000\*0.15;

}

pout.print(tax);

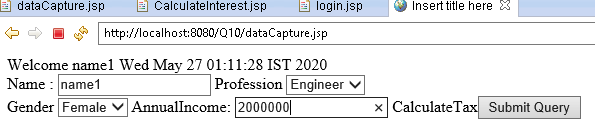
%>

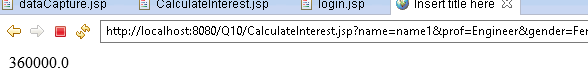
</body>

</html>

### Output







**Q11**

**ReserveOnline.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"* %>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" ["http://www.w3.org/TR/html4/loose.dtd"](http://www.w3.org/TR/html4/loose.dtd)>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<form action=*"ViewDisplays.jsp"* method=*"post"*>

<p>

</p>

</p>

<p>

</p>

<p>

</p>

Name: <input type=*"text"* name=*"name"*> Number: <input type=*"text"* name=*"number"*>

Flight Number: <input type=*"text"* name=*"fno"*> Date: <input type=*"text"* name=*"date"*>

<input type=*"submit"* > </form>

<form action=*"ShowFlights.jsp"* method=*"get"*> Day: <input type=*"text"* name=*"day"*>

<input type=*"submit"*> </form> </body></html>

# ViewDisplays.jsp

<%@ page import=*"java.util.\*"*%>

<%@ page import=*"java.sql.\*"*%>

<%@ page import=*"java.io.\*"*%>

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" ["http://www.w3.org/TR/html4/loose.dtd"](http://www.w3.org/TR/html4/loose.dtd)>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<%

PrintWriter pout = response.getWriter(); String name = request.getParameter("name"); System.out.println(name);

String number = request.getParameter("number"); System.out.println(number);

**int** fno = Integer.parseInt(request.getParameter("fno")); System.out.println(fno);

//int fno = 12;

**int** sno = **new** Random().nextInt(500)+1; String date = request.getParameter("date");

String url = "jdbc:mysql://localhost:3306/flight";

**try**{

Class.forName("com.mysql.cj.jdbc.Driver"); Connection conn =

(Connection)DriverManager.getConnection(url,"root","password");

**if**(conn!=**null**){

Statement stmt = (Statement)conn.createStatement();

**try**{

stmt.executeUpdate("insert into

seatreservation

values('"+fno+"','"+date+"',"+sno+",'"+name+"',"+number+");");

pout.println(name+" "+number+" "+date+"

"+fno+" "+sno);

}

**catch**(Exception e){

pout.println("Could not make a reservation");

}

}

}**catch**(Exception e){

e.printStackTrace();

}

%>

</body>

</html>

# ShowFlights.jsp

<%@ page import=*"java.sql.\*"*%>

<%@ page import=*"java.io.\*"*%>

<%@ page language=*"java"* contentType=*"text/html; charset=UTF-8"*

pageEncoding=*"UTF-8"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" ["http://www.w3.org/TR/html4/loose.dtd"](http://www.w3.org/TR/html4/loose.dtd)>

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=UTF-8"*>

<title>Insert title here</title>

</head>

<body>

<%

PrintWriter pout = response.getWriter(); String day = request.getParameter("day"); **try**{

Class.forName("com.mysql.cj.jdbc.Driver"); Connection conn =

(Connection)DriverManager.getConnection("jdbc:mysql://localhost:3306/flight ","root","password");

Statement stmt = (Statement)conn.createStatement(); ResultSet rs;

rs= stmt.executeQuery("select \* from flight where weekdays LIKE '%"+day+"%';");

**while**(rs.next()){

pout.println(rs.getInt(1)+" " + rs.getString(2)+" " + rs.getString(3));

pout.println();

}

}**catch**(Exception e){

e.printStackTrace();

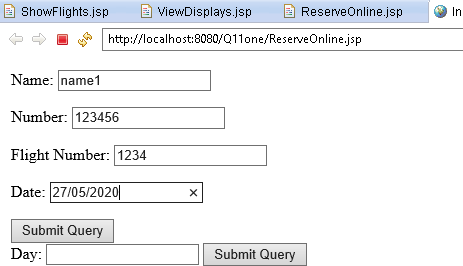
}

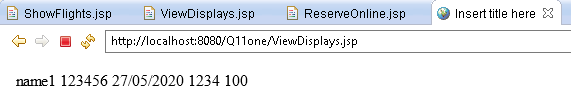
%>

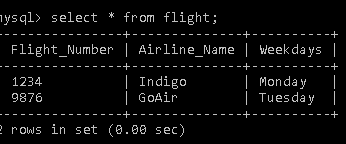
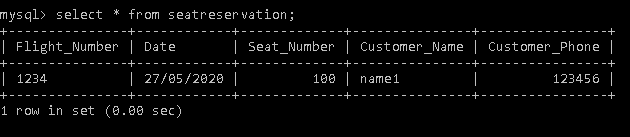
</body>

</html>

### Output







**Q12a**

**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");

}

}

# InputThread.java

**public class** InputThread {

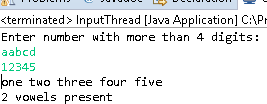
**public static void** main(String[] args) **throws** InterruptedException { GetStringThread getStringThread;

GetNumberThread getNumberThread; getNumberThread = **new** GetNumberThread(); getStringThread = **new** GetStringThread(); getStringThread.start(); Thread.*sleep*(100); getNumberThread.start();

}

}

### Output



**Q12b**

**MyServer.java**

**import** java.io.\*; **import** java.net.\*; **public class** MyServer {

**public static void** main(String[] args){

**try**{

ServerSocket ss=**new** ServerSocket(6666); Socket s=ss.accept();//establishes connection

DataInputStream dis=**new** DataInputStream(s.getInputStream()); String str=(String)dis.readUTF(); System.***out***.println("message= "+str);

ss.close();

} **catch**(Exception e)

{

System.***out***.println(e);}

}

}

# MyClient.java

**import** java.io.\*; **import** java.net.\*; **public class** MyClient {

**public static void** main(String[] args) {

**try**{

Socket s=**new** Socket("localhost",6666); DataOutputStream dout=**new**

DataOutputStream(s.getOutputStream());

dout.writeUTF("Hello Server"); dout.flush();

dout.close();

s.close();

}**catch**(Exception e)

{

System.***out***.println(e);

}

}

}

### Output

