**JAVA LAB PART B - ANSWERS**

**1.b. Write a java Program to create the table named DEPARTMENT with the attributes Dept\_id,Name,Year\_Established, Head\_Name,No\_of\_Employee and**

**(i) Find the number employees in a CSE department.**

**(ii) List name, Dept\_id of all the departments which are established in the year 2010.**

import java.sql.DriverManager;

import java.sql.ResultSet;

import com.mysql.jdbc.Connection;

import com.mysql.jdbc.Statement;

public class prog

{

public static void main(String []args)

{

try

{

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

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

Statement st = (Statement)con.createStatement();

ResultSet rs = st.executeQuery(" select No\_of\_Employee from Department where Name='CSE' ");

rs.next();

System.out.println(" No of employees in cse department: "

+ rs.getInt("No\_of\_Employee"));

rs =st.executeQuery("select Name,Dept\_id from department where Year\_Established='2010'");

while(rs.next())

{

String name=rs.getString("Name");

int did=rs.getInt("Dept\_id");

System.out.println("\n Name: "+name+"\n Dept\_id: "+did );

}

st.close();

con.close();

}

catch (Exception e)

{

e.printStackTrace();

}

}

}

**2.b. Write a Java servlet program that loads area and phone no. of police station of that area from a database. It takes an area or phone number as input and prints the corresponding other fields.**

**(Note: create police\_station table with appropriate fields)**.

<!DOCTYPE html>

<html>

<head>

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

<title>Police Station </title>

</head>

<body>

<form action = "Police" method = post >

<fieldset>

<input type = "radio" name = "n" value = 1 checked > Area <br>

<input type = "radio" name = "n" value = 2 > Phone Number <br>

Enter area/phone number : <input type = "text" name = "ap" > <br>

</fieldset>

<button type = "Submit" > Submit </button>

<button type = "Reset"> Cancel </button>

</form>

</body>

</html>

import java.io.IOException;

import java.io.PrintWriter;

import java.sql.DriverManager;

import java.sql.ResultSet;

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 com.mysql.jdbc.Connection;

import com.mysql.jdbc.PreparedStatement;

import com.mysql.jdbc.Statement;

/\*\*

\* Servlet implementation class Police

\*/

@WebServlet("/Police")

public class Police extends HttpServlet {

private static final long serialVersionUID = 1L;

/\*\*

\* @see HttpServlet#HttpServlet()

\*/

public Police() {

super();

}

/\*\*\* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)\*/

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter out = response.getWriter();

try

{

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

Connection conn = (Connection)DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb", "root", "") ;

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

ResultSet rs = st.executeQuery("select area,phone from police ");

nt n = Integer.parseInt(request.getParameter("n"));

int c = 0 ;

switch (n)

{ case 1 :

while(rs.next())

{ String val = request.getParameter("ap");

if(rs.getString("area").equals(val))

{

out.println("Area " +val +" Phone " + rs.getString("phone"));

c =1;

break; } }

break;

case 2:

while(rs.next())

{

String val = request.getParameter("ap"); if(rs.getString("phone").equals(val))

{

out.println("Area " +val +" Phone " + rs.getString("phone"));

c = 1;

break;

}

}

break;

default:

out.println("Information does not exist");

}

if(c==0)

out.println("Information does not exist");

}

catch(Exception e)

{

out.print(e);

}

}

/\*\* \* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response) \*/

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{ doGet(request, response); }

}

**3.b. Write a java servlet program with a function called Initials() that takes input representing a full name and returns the initials of the name in all capital letters. For example**

**Input: Robert B. Qwerty**

**Output : RBQ**

<form action = "Initials" method = post >

Enter Your Name : <input type = "text" name = "name" > <br>

<button type = "Submit" > Submit </button>

<button type = "Reset"> Cancel </button>

</form>

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("/Initials")

public class Initials extends HttpServlet {

private static final long serialVersionUID = 1L;

public Initials() { super(); }

public String initials(String n)

{

String in = Character.toString(n.charAt(0));

for (int i=0; i<n.length(); i++)

if (n.charAt(i)==' ' && i+1 < n.length() && n.charAt(i+1)!=' ' )

in+=n.charAt(i+1);

return in.toUpperCase();

}

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter out = response.getWriter();

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

String in=initials(n);

out.println(in);

}

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{ doGet(request, response); }

}

**4.b. Develop a JSP application that has the following pages : register.html contains 2 text boxes username, password and a button "REGISTER". Once Register button clicked the page should be redirected to welcome.jsp. In welcome.jsp validate username and password and display welcome message for a valid user. (Use Sessions)**

//register.html

<form action = "welcome.jsp" method = post>

Enter user name: <input type="text" name="user"><br>

Enter password: <input type="text" name="pass"><br>

<button type = "submit"> Register </button>

</form>

//welcome.jsp

<%

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

String password=request.getParameter("pass");

if(name.equals("admin") && password.equals("1234"))

{

out.println("Welcome "+ name);

HttpSession s = request.getSession();

session.setAttribute("user",name);

request.getRequestDispatcher("sessiontrace.jsp").forward(request,response);

}

else

out.println("Not Valid! ");

%>

//sessiontrace.jsp

<%

HttpSession s=request.getSession(false);

if(session!=null)

{

String name=(String)session.getAttribute("user");

out.println("Hello "+ name +" Welcome");

}

else

{

out.println("Please login first");

request.getRequestDispatcher("register.html").include(request,response);

}

%>

**5.b. Write a JSP that takes the user’s name and age from a form. Echo back the name and age along with a message stating the price of movie tickets. The price is determined by the age passed to the JSP**

**· If the age is greater than 62, the movie ticket price is Rs. 7.00**

**· If the user is less than 10 years old, the price is Rs. 5.00**

**· For everyone else, the price is Rs. 9.50**

//main.html

<body>

<form action = "ticket.jsp" method = post >

Enter Name : <input type ="text" name = "name" > <br>

Enter Age : <input type ="text" name = "age" > <br>

<button type = "Submit"> Submit </button>

</form>

</body>

//ticket.jsp

<body>

<%

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

int a = Integer.parseInt(request.getParameter("age"));

out.println("Hello, " + n + " " + a + " ");

if(a>62)

out.println("Your movie ticket price is Rs 7.00");

else if(a<10)

out.println("Your movie ticket price is Rs 5.00");

else

out.println("Your movie ticket price is Rs 9.50");

%>

</body>

**6.b. Write a servlet program to insert Employee details like empid, employee\_name, address, date\_of\_birth in Employee table using JDBC and display in table format**

//html

<body>

<form action = "Empdeets" method = post >

Enter Employee Id : <input type ="text" name = "id" > <br>

Enter Employee Name : <input type ="text" name = "name" > <br>

Enter Address : <input type ="text" name = "add" > <br>

Enter DOB (yyyy-mm-dd): <input type ="text" name = "dob" > <br>

<button type = "Submit"> Submit </button>

<button type = "Reset"> Cancel </button>

</form>

</body>

//servlet

import java.io.\*;

import java.sql.\*;

import javax.servlet.\*;

import javax.servlet.annotation.WebServlet;

import javax.servlet.http.\*;

import com.mysql.jdbc.Connection;

import com.mysql.jdbc.PreparedStatement;

import com.mysql.jdbc.Statement;

@WebServlet("/Empdeets")

public class Empdeets extends HttpServlet {

private static final long serialVersionUID = 1L;

public Empdeets() {super();}

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter out = response.getWriter();

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

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

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

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

try

{

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

Connection conn = (Connection) DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb", "root","");

PreparedStatement pstmt = (PreparedStatement) conn.prepareStatement("insert into Employee values(?,?,?,?)");

pstmt.setInt(1,id);

pstmt.setString(2, name);

pstmt.setString(3, add);

pstmt.setString(4, dob);

pstmt.execute();

out.print("Successfully inserted the values");

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

ResultSet rs = st.executeQuery("select \* from Employee");

out.print("<table> <tr> <th>Name</th> <th>Id</th> <th>Address</th> <th>DOB</th> </tr>");

while(rs.next())

{

name = rs.getString("employee\_name");

id =rs.getInt("empid");

add =rs.getString("address");

dob =rs.getString("date\_of\_birth");

out.println("<tr> <th> "+ name +" </th> <th> "+id +" </th><th> "+add+" </th> <th> "+dob+" </th></tr> ");

}

out.println("</table>");

}

catch(Exception e)

{out.print("ERROR");}

}

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

doGet(request, response);

}

}

**7.b. Write a JSP program to create a form with bookno, title, author, publication price and submit button. Using JSP-Database connectivity, get the data from the form and insert the records into the database, retrieve the book details for the particular title matches and display the details.**

//form.html

<body>

<form action = "book.jsp" method = post >

Enter Book number : <input type ="text" name = "bno" > <br>

Enter Title : <input type ="text" name = "title" > <br>

Enter Author: <input type ="text" name = "author" > <br>

Enter Publication <input type ="text" name = "pub" > <br>

Enter Price <input type ="text" name = "price" > <br>

<button type = "Submit"> Submit </button>

<button type = "Reset"> Cancel </button>

</form>

</body>

//book.jsp

<body>

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

<%@ page import = "javax.servlet.RequestDispatcher" %>

<%

int no = Integer.parseInt(request.getParameter("bno"));

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

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

String publisher = request.getParameter("pub");

int price = Integer.parseInt(request.getParameter("price"));

try

{

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

Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");

PreparedStatement pstmt = conn.prepareStatement("insert into books values(?,?,?,?,?)");

pstmt.setInt(1,no);

pstmt.setString(2,title);

pstmt.setString(3,author);

pstmt.setString(4,publisher);

pstmt.setInt(5,price);

pstmt.execute();

//out.print("Success!");

RequestDispatcher rd = request.getRequestDispatcher("pol2.html");

rd.forward(request,response);

}

catch(Exception e)

{

out.print("Error");

out.print(e);

}

%>

</body>

//form2.jsp

<body>

<form action = "displaybooks.jsp" method = post >

Enter Title : <input type ="text" name = "title" > <br>

<button type = "Submit"> Submit </button>

<button type = "Reset"> Cancel </button>

</form>

</body>

//displaybooks.jsp

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

<%

try

{

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

Connection conn = DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");

Statement stmt = conn.createStatement();

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

ResultSet rs = stmt.executeQuery("Select \* from books where title = '"+title+"'");

while(rs.next())

{

out.print(" Book No. " + rs.getInt("bookno") + " Title " + rs.getString("title") + " Author " + rs.getString("author") );

out.print(" Publisher " + rs.getString("publication") + " Price " + rs.getInt("price"));

}

}

catch(Exception e)

{

out.print(e);

}

%>

**8.b. Write a JSP program to accept the marks entered and display his/her grade to the browser. Department has set the grade for the subject Java as follows : Above 90=A, 80-89=B,70-79=C, Below 70=FAIL**.

<body>

<form action = 'gradetest.jsp' method = post >

Enter Your Marks :<input type="text" name="marks">

<button type="submit" >Submit </button>

</form>

</body>

//gradetest.jsp

<body>

<%

int m = Integer.parseInt(request.getParameter("marks"));

if (m>90)

out.print("A");

else if(m>80)

out.print("B");

else if(m>70)

out.print("C");

else

out.print("FAIL");

%>

</body>

**9.b. Write a Java-JDBC program to implement Banking Application using transaction management.**

import java.sql.\*;

import java.util.Scanner;

public class qb9 {

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner in=new Scanner(System.in);

int n;

int id,bal;

int t;

String name;

String q;

PreparedStatement ps;

int amt;

Statement s;

ResultSet rs;

try

{

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

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

if(!con.isClosed())

System.out.println("success");

s=con.createStatement();

con.setAutoCommit(false);

while(true)

{

System.out.println("1.entry 2.transact 3.display 4.exit");

n=in.nextInt();

switch(n)

{

case 1:

q="insert into bank values (?,?,?)";

ps=con.prepareStatement(q);

System.out.print("id: ");

id=in.nextInt();

System.out.print("name: ");

name=in.next();

System.out.print("balance: ");

bal=in.nextInt();

ps.setInt(1, id);

ps.setString(2, name);

ps.setInt(3, bal);

ps.executeUpdate();

con.commit();

break;

case 2:

System.out.print("please enter your id: ");

id=in.nextInt();

while(true)

{

System.out.println("1.withdraw 2.deposit 3.display details 4.rollback 5. commit 6.main menu");

int i=in.nextInt();

switch(i)

{

case 1:

System.out.print("please enter amount for withdrawal: ");

amt=in.nextInt();

q="select \* from bank where id="+id; rs=s.executeQuery(q);

rs.next();

bal=rs.getInt("bal"); System.out.println(bal);

bal=bal-amt; System.out.println(bal); q="update bank set bal="+bal+" where id="+id; System.out.println(q); s.executeUpdate(q); System.out.println("balance deducted!");

break;

case 2:

System.out.print("please enter amount for deposit: ");

amt=in.nextInt();

q="select \* from bank where id="+id;

rs=s.executeQuery(q);

rs.next();

bal=rs.getInt("bal");

bal=bal+amt;

q="update bank set bal="+bal+" where id="+id;

s.executeUpdate(q);

System.out.println("balance added!");

break;

case 3:

q="select \* from bank where id="+id; rs=s.executeQuery(q);

rs.next();

System.out.print("id "+rs.getInt(1));

System.out.print(" name "+rs.getString(2));

System.out.println(" bal "+rs.getInt(3));

break;

case 4:

System.out.println("rollback because of failure!");

con.rollback();

q="select \* from bank where id="+id;

rs=s.executeQuery(q);

rs.next();

System.out.print("id "+rs.getInt(1));

System.out.print(" name "+rs.getString(2));

System.out.println(" bal "+rs.getInt(3));

break;

case 5:

System.out.println("commiting successfully!");

con.commit(); q="select \* from bank where id="+id; rs=s.executeQuery(q); rs.next();

System.out.print("id "+rs.getInt(1)); System.out.print(" name "+rs.getString(2)); System.out.println(" bal "+rs.getInt(3));

break;

case 6:

break;

}

}

case 3:

q="select \* from bank";

rs=s.executeQuery(q);

while(rs.next()) {

System.out.print("id "+rs.getInt(1));

System.out.print(" name "+rs.getString(2));

System.out.println(" bal "+rs.getInt(3));

}

break;

case 4: break;

}

}

}

catch(Exception e)

{

System.out.println(e);

}

}

}

**10.b. Write a servlet program to accept the details of client as client name, password and panid. Write a cookie which stores panid. If the cookie is present print "Welcome to"+clientname other wise print "Welcome".**

<body>

<form action="Cookieread" method="post">

Enter name:<input type="text" name="name"><br>

Enter panid :<input type="text" name="panid"><br>

Enter password:<input type="text" name="password"><br>

<button type="submit">Submit</button><br>

<button type="reset">Cancel</button>

</form>

</body>

**//cookie read**

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

Cookie mycookie=new Cookie("panid","-999");

mycookie.setMaxAge(3600);

response.addCookie(mycookie);

RequestDispatcher rd=request.getRequestDispatcher("Cookiewrite");

rd.forward(request, response);

}

//cookie write

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter out=response.getWriter();

Cookie[] cookies=request.getCookies();

String name="";

String value="";

String n1 = request.getParameter("name");

String pid = request.getParameter("panid");

int c=0;

for(int i=0; i<cookies.length; i++)

{

name = cookies[i].getName();

value = cookies[i].getValue();

if(name.equals("admin") && value.equals(pid))

{

out.println("Welcome "+ n1);

c=1;

break;

}

}

if(c==0)

{

Cookie mycookie = new Cookie("admin",pid);

mycookie.setMaxAge(3600);

response.addCookie(mycookie);

out.println("welcome");

}

out.close();

}

**11.b. Write a Servlet program that uses JDBC that displays the subjects allotted for the faculty with table namely, Subjects(SubID, SubName, FacID). Update subject details for a faculty and display how many rows are updated**

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

PrintWriter out = response.getWriter();

response.setContentType("text/html");

try

{

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

Connection conn = (Connection) DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb", "root","");

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

ResultSet rs=st.executeQuery("select \* from subjects");

while(rs.next())

{

int fid=rs.getInt("FacID");

String sub=rs.getString("SubName");

out.println("FacID "+fid+" SubName "+sub);

out.println("<br>");

}

PreparedStatement pst=(PreparedStatement) conn.prepareStatement("update subjects set SubName='java' where SubID=1 and FacID=1");

int n = pst.executeUpdate();

out.println("Number of Rows Updated "+n );

out.println("<br>");

}

catch(Exception e)

{

out.println(e);

}

}

**12.b. Write a JSP program to create a HTML form with username, age, marks and submit button. The program should get values from HTML form and display message like "Eligible for SEE" along with the message the page includes counter.jsp, it counts the number of visitor visited the page.**

<form action="check.jsp" method="post">

Enter username:<input type="text" name="name"><br>

Enter age:<input type="text" name="age"><br>

Enter marks:<input type="text" name="marks"><br>

<button type="submit">Submit</button><br>

<button type="reset">Cancel</button>

</form>

**//check.jsp**

<%

int marks=Integer.parseInt(request.getParameter("marks"));

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

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

if(marks>=20)

out.println("Eligible for SEE");

else

out.println("Not Eligible");

RequestDispatcher rd=request.getRequestDispatcher("counter.jsp");

rd.include(request,response);

%>

**//counter.jsp**

<body>

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

<%

Integer hitsCount = (Integer)application.getAttribute("hitCounter");

if( hitsCount == null || hitsCount == 0 )

{

out.println("Welcome to my website!");

hitsCount = 1;

}

else

{

out.println("Welcome back to my website!");

hitsCount += 1;

}

application.setAttribute("hitCounter", hitsCount);

%>

<p>Total number of visits: <%= hitsCount%></p>

</body>

**13.b. Write a SetCookies servlet, a servlet that sets six cookies. Three have the default expiration date, meaning that they should apply only until the user next restarts the browser. The other three use setMaxAge to stipulate that they should apply for the next hour, regardless of whether the user restarts the browser or reboots the computer to initiate a new browsing session.**

//create cookies

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter pw=response.getWriter();

for(int i=1;i<4;i++)

{

Cookie mycookie=new Cookie("session"+i,"value"+i);

response.addCookie(mycookie);

mycookie=new Cookie("persistent"+i,"value"+i);

mycookie.setMaxAge(3600);

response.addCookie(mycookie);

}

pw.println("cookie created");

}

//read cookies

protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException

{

response.setContentType("text/html");

PrintWriter pw=response.getWriter();

Cookie[] cookies=request.getCookies();

String name="";

String value="";

if(cookies==null)

pw.println("No Cookies <br>");

else {

for(int i=0;i<cookies.length;i++)

{

name=cookies[i].getName();

value=cookies[i].getValue();

pw.println("<tr> <td>"+ name +"</td> <td>"+value+"</td> </tr><br>");

}

}

}

**14.b. Write a JAVA-JDBC program that connects to the database COLLEGE with STUDENT TABLE with appropriate attributes. Write a program to display the Students whose cgpa is below 9 and also update the student table to change the cgpa of student named “john” from 8.96 t0 9.4 using updatable result set. Finally display the results and disconnect form the database.**

**//create database COLLEGE with table STUDENT(name,cgpa) name-varchar,cgpa-double**

**//make name or cgpa primary key**

"select \* from student where cgpa<9";

Statement st1=con.createStatement(ResultSet.TYPE\_SCROLL\_SENSITIVE,ResultSet.CONCUR\_UPDATABLE);

String query1="select name,cgpa from student";

ResultSet rs1=st1.executeQuery(query1);

while(rs1.next())

{

if(rs1.getString("name").equals("john"))

{

break;

}

}

rs1.updateDouble("cgpa", 9.4);

rs1.updateRow();