1.

```
// Write a java program that connects to the Employee (ID, FName. LName, Project, Salary)
// database using JDBC and perform the following operations.
// i. Display details of all the Employees.
// ii. Display details of all the employees who work for project “Web Development”.
// iii. Display the IDs of all those employee who have salary above 75,000/- and are in “Web
// Development”.
// iv. Display the total Number of employees who have salary less than 50,000/-.
import java.sql.*;
public class proj1 {
	public static void main(String args[]){
	Connection con=null;
	Statement st=null;
	ResultSet rs=null;
	String query;
	try{
	Class.forName("com.mysql.jdbc.Driver").newInstance();
	con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");

	st=con.createStatement();


	// i. Display details of all the Employees.
	query="select * from Employee";
	System.out.println(query);
	rs=st.executeQuery(query);
	while(rs.next()){
		System.out.print(rs.getString(1)+"\t");
		System.out.print(rs.getString(2)+"\t");
		System.out.print(rs.getString(3)+"\t");
		System.out.print(rs.getString(4)+"\t");
		System.out.println(rs.getInt(5)+"\t");
	}
	rs.close();
	System.out.println();

	// ii. Display details of all the employees who work for project “Web Development”.
	query="select * from Employee where project='Web Development'";
	System.out.println(query);
	rs=st.executeQuery(query);
	while(rs.next()){
		System.out.print(rs.getString(1)+"\t");
		System.out.print(rs.getString(2)+"\t");
		System.out.print(rs.getString(3)+"\t");
```

```
                System.out.print(rs.getString(4)+"\t");
                System.out.println(rs.getInt(5)+"\t");
        }
        rs.close();
        System.out.println();
        // iii. Display the IDs of all those employee who have salary above 75,000/- and are in
“Web Development”.
        query="select * from Employee where salary>75000 and project='Web Development'";
        System.out.println(query);
        rs=st.executeQuery(query);
        while(rs.next()){
                System.out.print(rs.getString(1)+"\t");
                System.out.print(rs.getString(2)+"\t");
                System.out.print(rs.getString(3)+"\t");
                System.out.print(rs.getString(4)+"\t");
                System.out.println(rs.getInt(5)+"\t");
        }

        System.out.println();
        // iv. Display the total Number of employees who have salary less than 50,000/-.
        query="select count(ID) from Employee where salary<50000";
        System.out.println(query);
        rs=st.executeQuery(query);
        rs.next();
        System.out.println("Total number of employees who have salary < 50000 are :
"+rs.getInt(1));
        // int count=Integer.parseInt(rs);

        }
        catch(SQLException se){
        System.out.println(se);
        }
        catch(Exception e){
        System.out.println(e.getMessage());
        }
        finally{
        try{
                if(con!=null) con.close();
                if(rs!=null) rs.close();
                if(st!=null) st.close();
        }catch(SQLException se){
                System.out.println(se);
        }
        }
```

```
        }
}
```

2.

```
// Write a java program that connects to a Department (Dept_ID, Name, Year_Established,
// Head_Name, No_of_Employees) database using JDBC and perform the following.
// i. Display details of all the Departments using Statement Object.
// ii. Display details of all the Departments which are established in the year 2000 using
// PreparedStatement object. Read the value from the user and display appropriate messages.
// iii. Display details of all the Departments by reading Dept_ID and Department Name from
// the user using PreparedStatement object.
// iv. Insert a new row using PreparedStatement object. Display the details.


import java.sql.*;
import java.util.Scanner;
public class proj2 {
        public static void main(String[] args) {
        Connection con=null;
        Statement st=null;
        ResultSet rs=null;
        PreparedStatement ps=null;
        String query;
        Scanner sc=new Scanner(System.in);
        try{
        Class.forName("com.mysql.jdbc.Driver").newInstance();
        con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");
        st=con.createStatement();

        // i. Display details of all the Departments using Statement Object.
        query="select * from Department";
        System.out.println(query);
        rs=st.executeQuery(query);
        while(rs.next()){
                System.out.print(rs.getInt("Dept_ID")+"\t");
                System.out.print(rs.getString(2)+"\t");
                System.out.print(rs.getInt(3)+"\t");
```

```
            System.out.print(rs.getString(4)+"\t");
            System.out.println(rs.getInt(5)+"\t");
        }
        System.out.println();
        rs.close();


        // ii. Display details of all the Departments which are established in the year 2000 using PreparedStatement object.
        //  Read the value from the user and display appropriate messages.
        query="select * from Department where Year_Established=2000";
        System.out.println(query);
        ps=con.prepareStatement(query);
        rs=ps.executeQuery();
        while(rs.next()){
            System.out.print(rs.getInt("Dept_ID")+"\t");
            System.out.print(rs.getString(2)+"\t");
            System.out.print(rs.getInt(3)+"\t");
            System.out.print(rs.getString(4)+"\t");
            System.out.println(rs.getInt(5)+"\t");
        }
        System.out.println();
        ps.close();




        // iii. Display details of all the Departments by reading Dept_ID and Department Name from the user using PreparedStatement object.
        int dept_id=sc.nextInt();
        sc.nextLine();
        String dept_name=sc.nextLine();
        query="select * from Department where Dept_ID=? and Name=?";
        System.out.println(query);
        ps=con.prepareStatement(query);
        ps.setInt(1,dept_id);
        ps.setString(2,dept_name);
        rs=ps.executeQuery();
        while(rs.next()){
            System.out.print(rs.getInt("Dept_ID")+"\t");
```

```
            System.out.print(rs.getString(2)+"\t");
            System.out.print(rs.getInt(3)+"\t");
            System.out.print(rs.getString(4)+"\t");
            System.out.println(rs.getInt(5)+"\t");
        }
        System.out.println();
        ps.close();

        // iv. Insert a new row using PreparedStatement object. Display the details.
        query="insert into Department values(003,'ISE', 2011,'DEF',30)";
        ps=con.prepareStatement(query);
        int count=ps.executeUpdate();
        System.out.println("Updated "+count+" records");
        }catch(ClassNotFoundException ce){
        System.out.println(ce);
        }
        catch(SQLException se){
        System.out.println(se);
        }
        catch(Exception e){
        System.out.println(e);
        }
        finally{
        try{
            if(con!=null) con.close();
            if(rs!=null) rs.close();
            if(st!=null) st.close();
            if(ps!=null) ps.close();

        }
        catch(SQLException see){
            System.out.println(see);
        }
        }
        }
}
```

3.

```
// Write a java program that connects to the Movies (ID, Movie_Name, Genre, IMDB_Rating,
// Year) database using JDBC. Create an Updatable ResultSet and perform the following
// operations.
// i. Display details of all the Movies from the table.
// ii. Display details of 5th Movie from the table.
// iii. Insert a new row into the table using PreparedStatement and display all the details.
// iv. Delete a row from the table where the IMDB_Rating is less than 5.
// v. Update the Genre of a movie with ID as 10 to “Sci-fi”.

import java.sql.*;
public class proj3 {
	public static void main(String[] args) {
	Connection con=null;
	PreparedStatement ps=null;
	ResultSet rs=null;
	String query;
	int count;
	try{
	Class.forName("com.mysql.jdbc.Driver").newInstance();
	con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");

	// i. Display details of all the Movies from the table.
	query="select * from Movies";
	System.out.println(query);
	ps=con.prepareStatement(query);
	rs=ps.executeQuery();
	while(rs.next()){
		System.out.print(rs.getInt(1));
		System.out.print(rs.getString(2));
		System.out.print(rs.getString(3));
		System.out.print(rs.getInt(4));
		System.out.println(rs.getString(5));
	}
	System.out.println();
	ps.close();
	rs.close();

	// ii. Display details of 5th Movie from the table.
	query="select * from Movies limit 1 offset 4";
	System.out.println(query);
	ps=con.prepareStatement(query);
```

```
rs=ps.executeQuery();
while(rs.next()){
        System.out.print(rs.getInt(1));
        System.out.print(rs.getString(2));
        System.out.print(rs.getString(3));
        System.out.print(rs.getInt(4));
        System.out.println(rs.getString(5));
}
System.out.println();


// iii. Insert a new row into the table using PreparedStatement and display all the details.
query="insert into Movies values(11,'fgh','drama',8,2019)";
System.out.println(query);
ps=con.prepareStatement(query);
count=ps.executeUpdate();
System.out.println("Inserted "+count+" rows");

// iv. Delete a row from the table where the IMDB_Rating is less than 5.
query="delete from Movies where IMDB_Rating<5 limit 1";
System.out.println(query);
ps=con.prepareStatement(query);
count=ps.executeUpdate();
System.out.println("Deleted "+count+" rows");



// v. Update the Genre of a movie with ID as 10 to “Sci-fi”.
query="update Movies set Genre='Sci-fi' where ID=10";
System.out.println(query);
ps=con.prepareStatement(query);
count=ps.executeUpdate();
System.out.println("Updated "+count+" rows");


}catch(Exception e){
System.out.println(e);
}
finally{
try{
        if(con!=null) con.close();
        if(ps!=null) ps.close();
        if(rs!=null) rs.close();
}catch(SQLException se){
```

```
                System.out.println(se);
        }

        }


        }
}
```

4.

```
import java.io.*;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;
import java.time.*;

@WebServlet("/vote")
public class Proj5 extends HttpServlet{
        public void doPost(HttpServletRequest req, HttpServletResponse res) throws
IOException {
        String fname=req.getParameter("fname");
        String lname=req.getParameter("lname");
        String email=req.getParameter("email");
        String date=req.getParameter("dob");
        PrintWriter out=res.getWriter();
        LocalDate dob=LocalDate.parse(date);
        LocalDate cur=LocalDate.now();
        int k=Period.between(dob,cur).getYears();
        if(k<18) {
        out.println("You are not eligible");
        }
        else {
        out.println("you are eligible to vote");
        }
        }
}
```

vote.html

```
<!DOCTYPE html>
```

```
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
	<form method='post' action='vote'><br>
	<input type='text' name='fname'><br>
	<input type='text' name='lname'><br>
	<input type='email' name='email'><br>
	<input type='date' name='dob'><br>
	<input type='submit' value='submit'><br>
	</form>
</body>
</html>
```

5.

```
//Write a java servlet program to calculate the CGPA.
//Read the USN, Name, SGPA of previous 4  semesters from user in an HTML page.
//Calculate the CGPA and display the details using a  Servlet class.

import java.io.*;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;

@WebServlet("/cgpa")
public class Proj6 extends HttpServlet{
   public void doGet(HttpServletRequest req,HttpServletResponse res) throws IOException{

	String usn=req.getParameter("usn");
	String name=req.getParameter("name");
	double s1=Double.parseDouble(req.getParameter("s1"));
	double s2=Double.parseDouble(req.getParameter("s2"));
	double s3=Double.parseDouble(req.getParameter("s3"));
	double s4=Double.parseDouble(req.getParameter("s4"));
	double cgpa=(s1+s2+s3+s4)/4;
```

```
        PrintWriter out=res.getWriter()    ;
        out.println(usn+"\t"+name+"\t"+"cgpa "+"\t"+cgpa);
    }
}
```

cgpa.html

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
        <form method="get" action='cgpa'>
                usn:<input type='text' name='usn'>
                name:<input type='text' name='name'>
                s1:<input type='text' name='s1'>
                s2:<input type='text' name='s2'>
                s3:<input type='text' name='s3'>
                s4:<input type='text' name='s4'>
                <input type='submit' name='submit'>
        </form>
</body>
</html>
```

//Write a java servlet program to implement a simple calculator.
//Validate the input data and display appropriate messages.

```
import java.io.*;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;
import java.lang.Math;
@WebServlet("/calc")
```

6.

```
public class Proj7 extends HttpServlet{
   public void doGet(HttpServletRequest req,HttpServletResponse res) throws IOException{
        PrintWriter out=res.getWriter()    ;

        double n1=Double.parseDouble(req.getParameter("n1"));
        double n2=Double.parseDouble(req.getParameter("n2"));

        String op=req.getParameter("op");
        switch(op) {
        case "add":
                out.println(n1+n2);
                break;
        case "sub":
                out.println(n1-n2);
                break;
        case "mul":
                out.println(n1*n2);
                break;
        case "div":
                if(n2==0)
                        out.println("second number cannot be zero");
                else {
                        out.println(n1/n2);
                }
                break;

        case "expo":
                out.println(Math.exp(n1));
                break;

        default:
                out.println("invalid");
        }

   }
}
```

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

```
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
   <form method='get' action='calc'>
         first number:<input type='text' name='n1'><br>
         second number <input type='text' name='n2'><br>
         Addition<input type='radio' value='add' name='op'><br>
         Subtraction<input type='radio' value='sub' name='op'><br>
         Multiplication<input type='radio' value='mul' name='op'><br>
         Division<input type='radio' value='div' name='op'><br>
         e^x<input type='radio' value='expo' name='op'><br>
         <input type='submit' value ="submit">
   </form>
</body>
</html>
```

7.

```
//Write a java servlet program that reads either area name or phone no.
//of police station of and  displays details of the police station.
//Use a HTML file to read the input and display the output  using a Servlet class.
//Create police_station table with appropriate fields like Station_ID,  Area_Name,
//Phone_Number and Address.


import java.io.*;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.*;
import java.sql.*;
@WebServlet("/police")
public class Proj9 extends HttpServlet{
   public void doGet(HttpServletRequest req,HttpServletResponse res) throws IOException{

         String area=req.getParameter("area");
         String phno=req.getParameter("phno");
```

```
        String query;
        Connection con=null;
        Statement st=null;
        ResultSet rs=null;
        PrintWriter out=res.getWriter()    ;

        try {
                Class.forName("com.mysql.jdbc.Driver").newInstance();
                con=DriverManager.getConnection("jdbc:mysql://localhost:3306/mydb","root","");
                query="select * from Police where Area_Name = '"+area+"' and
Phone_Number= '"+phno+"'";
                st=con.createStatement();
                rs=st.executeQuery(query);
                while(rs.next()) {
                out.println(rs.getString(1));
                out.println(rs.getString(2));
                out.println(rs.getString(3));
                out.println(rs.getString(4));
                }
        }catch(Exception e) {
                        System.out.println(e);
        }
   }
}


<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
   <form method='get' action='police'>

        area:<input type='text' name='area'>
        phno:<input type='text' name='phno'>
        <input type='submit' name='submit'>
   </form>
</body>
</html>
```

9.

```
<%--  Write a JSP program to accept the 5 subject marks entered and display his/her grade to
the
browser. Department has set the grade for the subject Java as follows: Above 90=S, 80-89=A,
70-
79=B, 60-69=C, 50-59=D, Below 50=FAIL. --%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
        pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
   <%
         double s1=Double.parseDouble(request.getParameter("s1"));
         double s2=Double.parseDouble(request.getParameter("s2"));
         double s3=Double.parseDouble(request.getParameter("s3"));
         double s4=Double.parseDouble(request.getParameter("s4"));
         double s5=Double.parseDouble(request.getParameter("s5"));
         double s=(s1+s2+s3+s4+s5)/5;
         out.println(s);
   %>

</body>
</html>
```

```
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
```

```
   <form action="Proj11.jsp" method="post">
          s1:<input type="text" name="s1">
          s2:<input type="text" name="s2">
          s3:<input type="text" name="s3">
          s4:<input type="text" name="s4">
          s5:<input type="text" name="s5">
          <input type="submit" value="calculate">
   </form>
</body>
</html>
```

10.

```
<%-- Write a JSP program 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. 50.
If the user is less than 10 years old, the price is Rs. 30.
For everyone else, the price is Rs. 80 --%>

<%@ page language="java" contentType="text/html; charset=UTF-8"
         pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<%
   out.println(request.getParameter("name"));
   out.println(request.getParameter("age"));
   int age=Integer.parseInt(request.getParameter("age"));
```

```
    if(age>62) out.println("Rs:50");
    else if(age<10) out.println("Rs : 30");
    else out.println("Rs: 80");

%>

</body>
</html>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
    <form method="post" action="Proj12.jsp">
            name:<input name="name" type="text">
            age:<input type="number" name="age">
            <input type="submit" value="submit">
    </form>
</body>
</html>
```