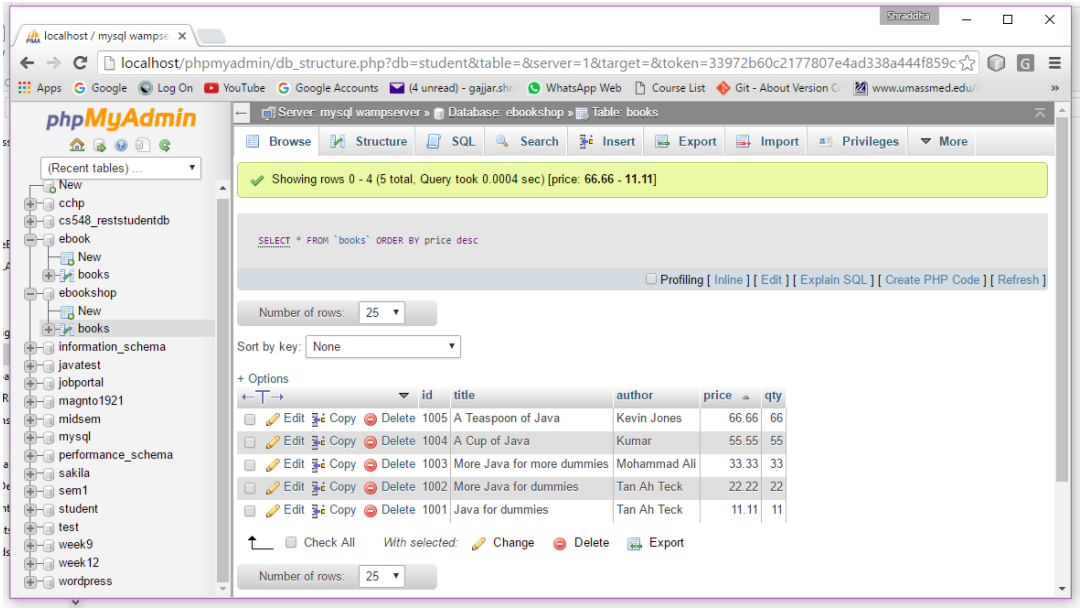
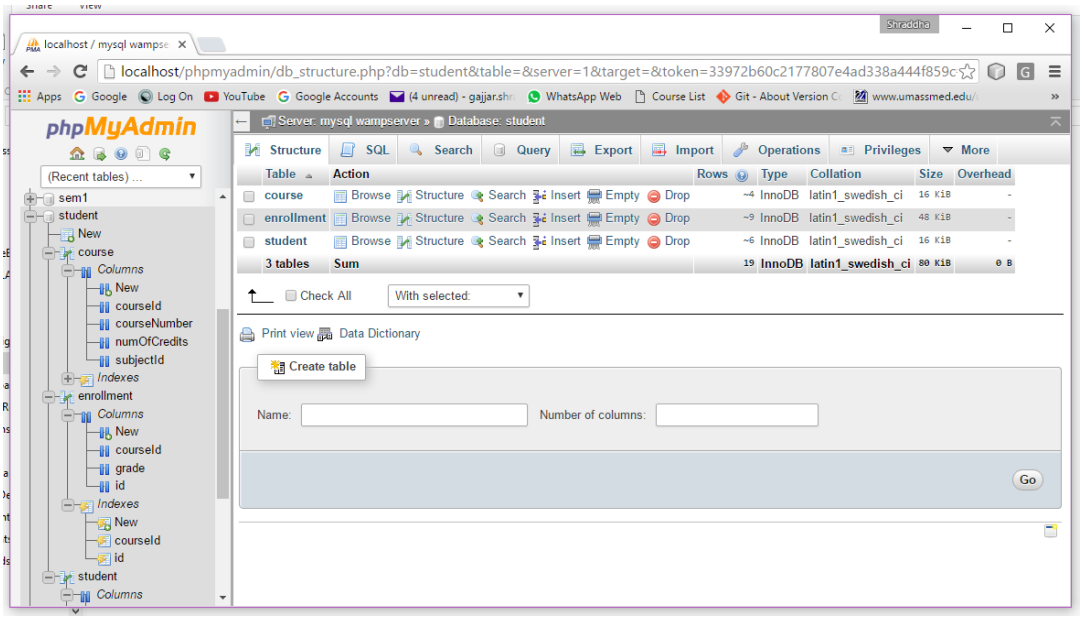
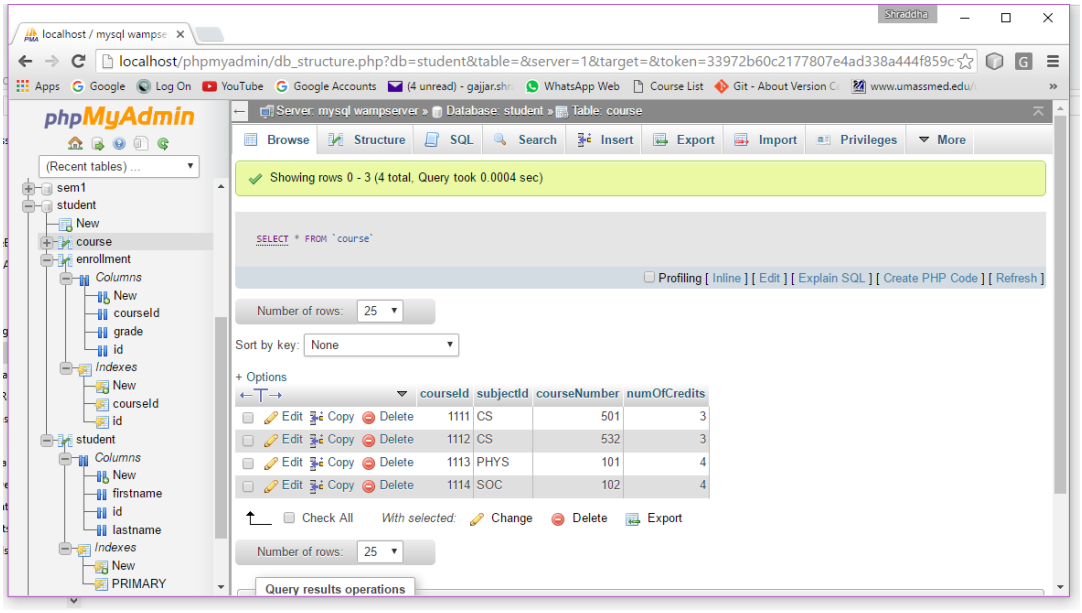
Database 1st:



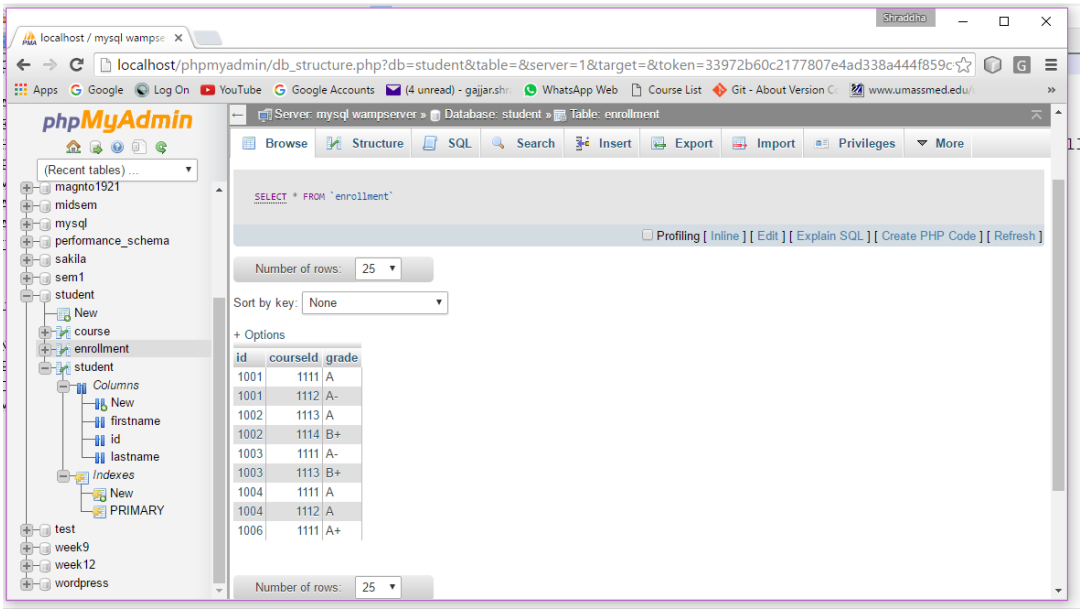
Database 2nd :



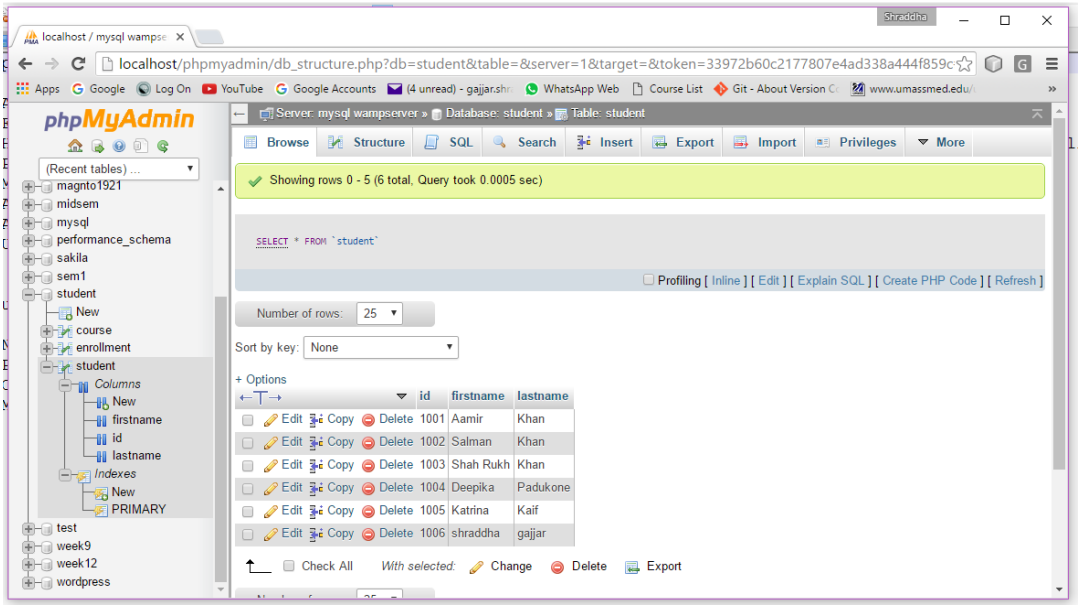
Course Table:



Enrollement:



Student



Question:1

Query.html step-7 of given link

```
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<html>
    <head>
        <title>TODO supply a title</title>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
    </head>
    <body>
  <h2>Yet Another Bookshop</h2>
  <form method="get" action="QueryServlet">
```

```
   <b>Choose an author:</b>
   <input type="checkbox" name="author" value="Tan Ah Teck">Ah Teck
   <input type="checkbox" name="author" value="Mohammad Ali">Ali
   <input type="checkbox" name="author" value="Kumar">Kumar
   <input type="submit" value="Search">
  </form>
   </body>
</html>
```

QueryServlet.java:

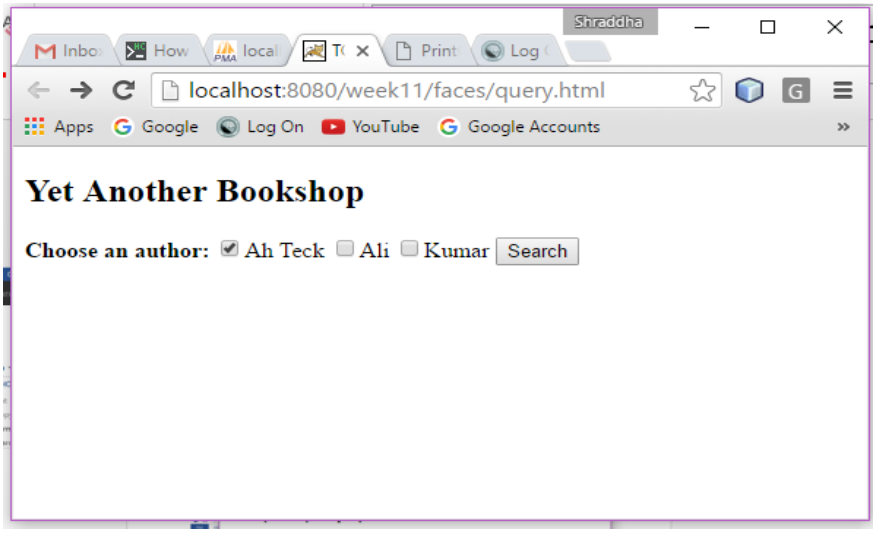
```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package cs532;

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;
import java.io.*;
import java.sql.*;
```

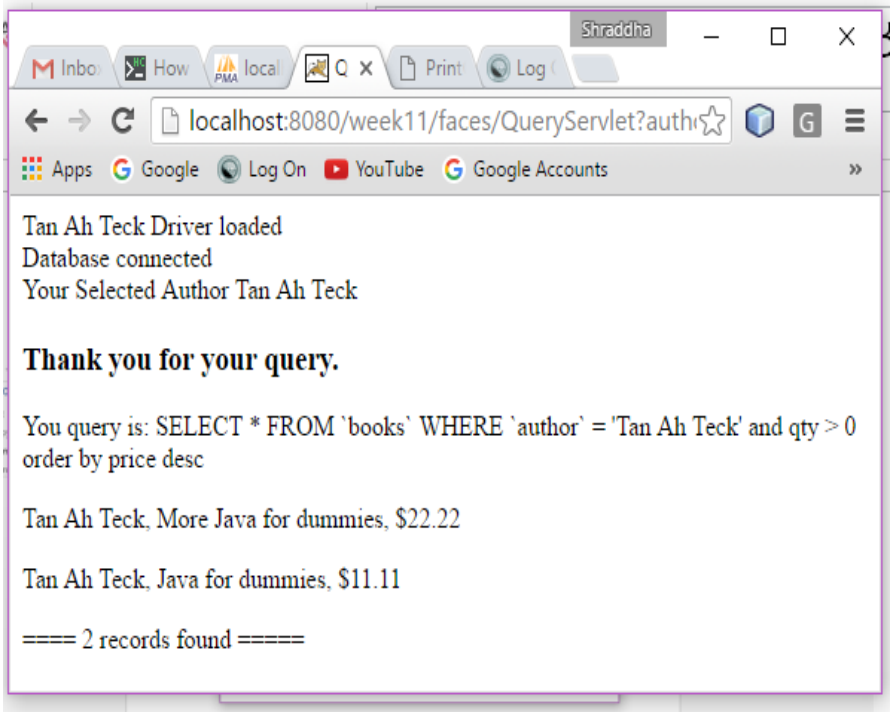
```
import java.util.logging.Level;
import java.util.logging.Logger;
import javax.servlet.*;
import javax.servlet.http.*;

/**
 *
 * @author shraddha
 */
@WebServlet(name = "QueryServlet", urlPatterns = {"/QueryServlet"})
public class QueryServlet extends HttpServlet {

   static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";

   private static final String USERNAME = "root";
   private static final String PASSWORD = null;
   private static final String CONN_STRING = "jdbc:mysql://localhost/ebookshop";

   @Override
   public void doGet(HttpServletRequest request, HttpServletResponse response)
         throws ServletException, IOException {

      response.setContentType("text/html");
      PrintWriter out = response.getWriter();
      Connection conn = null;
      Statement stmt = null;
      try {
         out.println(request.getParameter("author"));
```

```
        Class.forName("com.mysql.jdbc.Driver");
        out.println("Driver loaded");
        out.println("<br/>");
        conn = DriverManager.getConnection(CONN_STRING, USERNAME, PASSWORD);
        stmt = (Statement) conn.createStatement();

        out.println("Database connected");
        out.println("<br/>");

        out.println("Your Selected Author " + request.getParameter("author"));

        String sqlStr = "SELECT * FROM `books` WHERE `author` = '" + request.getParameter("author") +
"' and qty > 0 order by price desc";

        out.println("<html><head><title>Query Response</title></head><body>");
        out.println("<h3>Thank you for your query.</h3>");
        out.println("<p>You query is: " + sqlStr + "</p>");
        ResultSet rset = stmt.executeQuery(sqlStr);
        int count = 0;
        while (rset.next()) {
           out.println("<p>" + rset.getString("author")
                 + ", " + rset.getString("title")
                 + ", $" + rset.getDouble("price") + "</p>");
           count++;
        }
        out.println("<p>==== " + count + " records found =====</p>");
        out.println("</body></html>");
      } catch (SQLException ex) {
        ex.printStackTrace();
```

```
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(QueryServlet.class.getName()).log(Level.SEVERE, null, ex);
        } finally {
            out.close();
            try {
                if (stmt != null) {
                    stmt.close();
                }
                if (conn != null) {
                    conn.close();
                }
            } catch (SQLException ex) {
                ex.printStackTrace();
            }
        }
    }
}
```

Output:





Question2 Find grade of student using prepared statement.

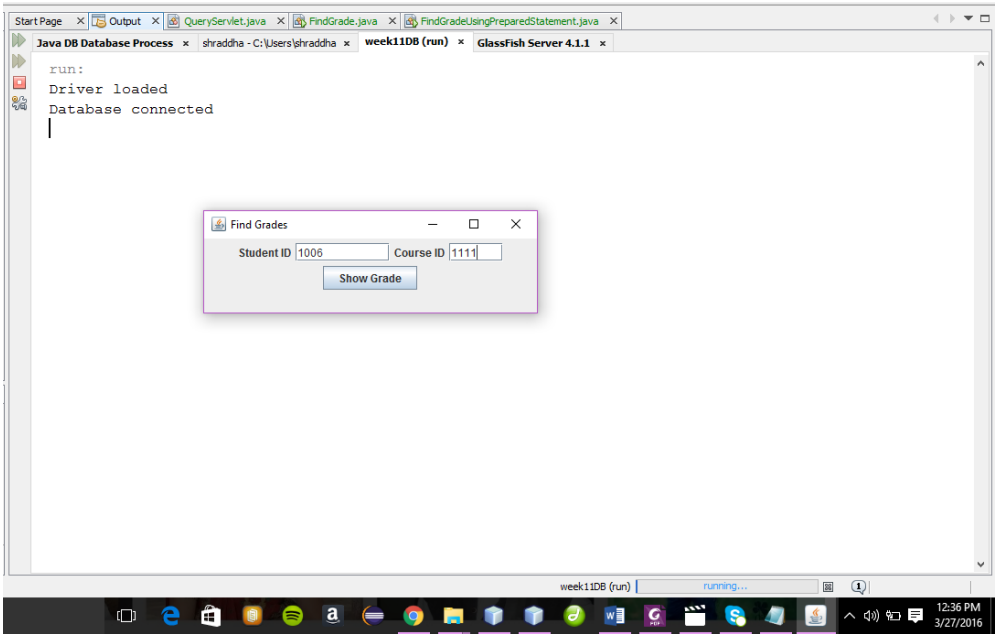
Find grade Simple way

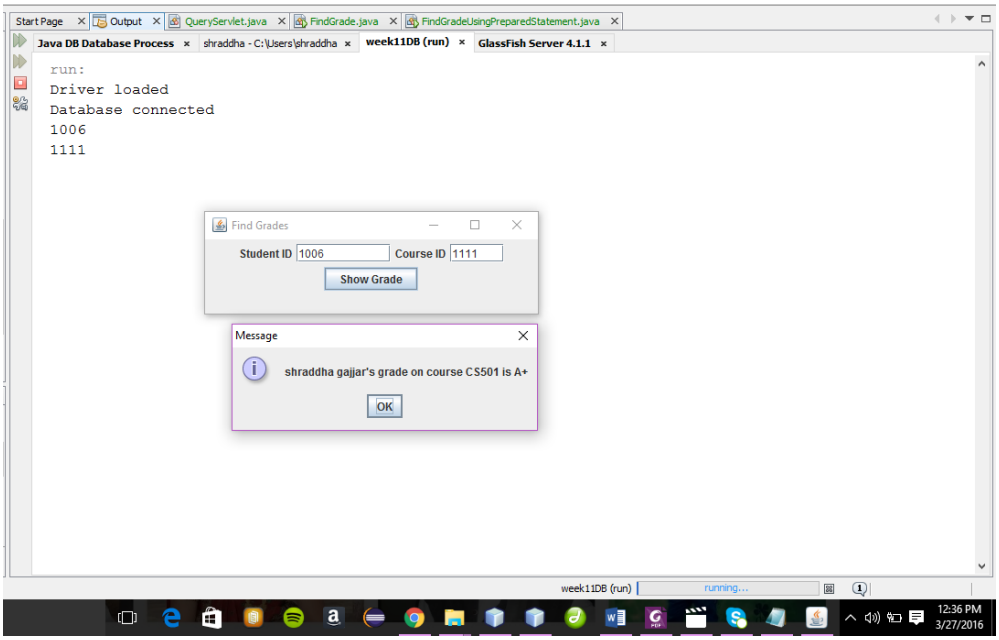
```
package week11db;

import javax.swing.*;

import java.sql.*;

import java.awt.*;

import java.awt.event.*;


public class FindGrade extends JFrame {


   static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";

   private static final String USERNAME = "root";

   private static final String PASSWORD = null;

   private static final String CONN_STRING = "jdbc:mysql://localhost/student";


   private JTextField jtfID = new JTextField(9);
```

```
  private JTextField jtfCourseId = new JTextField(5);
  private JButton jbtShowGrade = new JButton("Show Grade");

  private Statement stmt;

  public FindGrade() {

    initializeDB();
    jbtShowGrade.addActionListener(new ActionListener() {
      @Override
      public void actionPerformed(ActionEvent e) {
        jbtShowGrade_actionPerformed(e);
      }
    });

    JPanel jPanel1 = new JPanel();
    jPanel1.add(new JLabel("Student ID"));
    jPanel1.add(jtfID);
    jPanel1.add(new JLabel("Course ID"));
    jPanel1.add(jtfCourseId);
    jPanel1.add(jbtShowGrade);
    add(jPanel1, BorderLayout.CENTER);
  }

  private void initializeDB() {
    try {
      Class.forName("com.mysql.jdbc.Driver");
      System.out.println("Driver loaded");
```

```
        Connection connection = DriverManager.getConnection(CONN_STRING, USERNAME,
PASSWORD);
        System.out.println("Database connected");

        // Create a statement
        stmt = (Statement) connection.createStatement();
      } catch (Exception ex) {
        ex.printStackTrace();
      }
    }

    private void jbtShowGrade_actionPerformed(ActionEvent e) {
      String studentId = jtfID.getText();
      String courseId = jtfCourseId.getText();
      System.out.println(studentId);
      System.out.println(courseId);

      try {
        String queryString = "select `student`.`firstname`, `student`.`lastname`, `course`.`subjectId`,
`course`.`courseNumber`, `enrollment`.`grade` from
`student`.`student`,`student`.`enrollment`,`student`.`course` where `student`.`id` =  \'" + studentId + "\'
and `enrollment`.`courseId` = \'" + courseId + "\' and `enrollment`.`courseId`=`course`.`courseId` and
`enrollment`.`id` = `student`.`id`";
        ResultSet rset = stmt.executeQuery(queryString);

        if (rset.next()) {
          String firstName = rset.getString(1);
          String lastName = rset.getString(2);
          String subject = rset.getString(3);
          String number = rset.getString(4);
```

```
            String grade = rset.getString(5);

            // Display result in a dialog box
            JOptionPane.showMessageDialog(null, firstName + " " + lastName
                  + "'s grade on course " + subject + number + " is " + grade);
          } else {
            // Display result in a dialog box
            JOptionPane.showMessageDialog(null, "Not found");
          }
        } catch (SQLException ex) {
          ex.printStackTrace();
        }
    }

    /**
     * Main method
     */
    public static void main(String[] args) {
        FindGrade frame = new FindGrade();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setTitle("Find Grades");
        frame.setSize(380, 120);
        frame.setLocationRelativeTo(null); // Center the frame
        frame.setVisible(true);
    }
}
```





Find Grade Using prepared statement:

```
package week11db;


import javax.swing.*;

import java.sql.*;
```

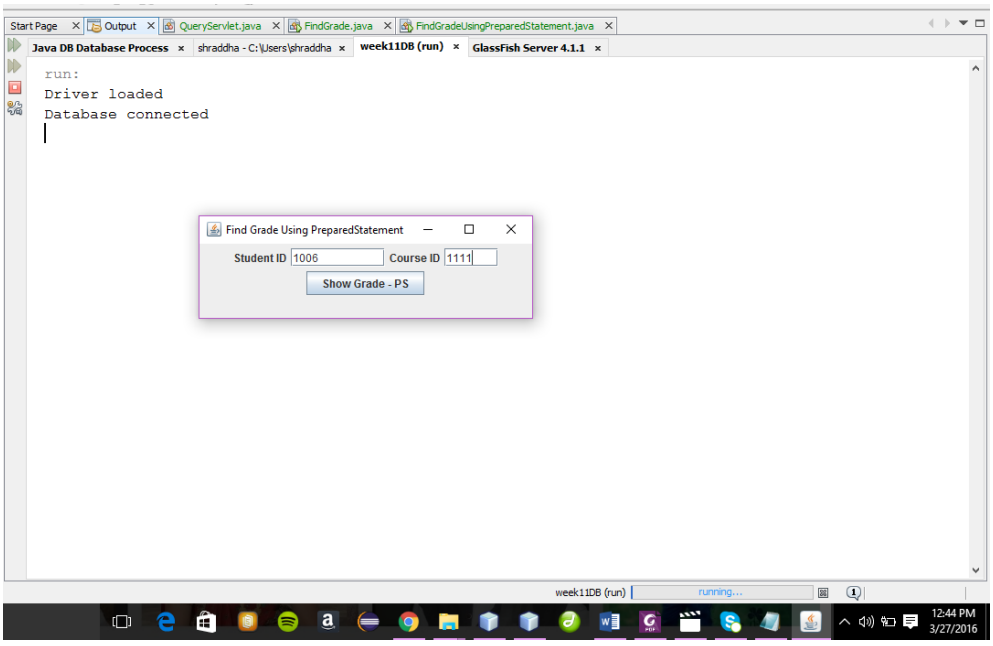
```
import java.awt.*;
import java.awt.event.*;

public class FindGradeUsingPreparedStatement extends JFrame {

   private JTextField jtfID = new JTextField(9);
   private JTextField jtfCourseId = new JTextField(5);
   private JButton jbtShowGrade = new JButton("Show Grade - PS");

    static final String JDBC_DRIVER = "com.mysql.jdbc.Driver";
   private static final String USERNAME = "root";
   private static final String PASSWORD = null;
   private static final String CONN_STRING = "jdbc:mysql://localhost/student";


   // PreparedStatement for executing queries
   private PreparedStatement preparedStatement;

   public FindGradeUsingPreparedStatement() {
      // Initialize database connection and create a Statement object
      initializeDB();

      jbtShowGrade.addActionListener(new ActionListener() {
         @Override
         public void actionPerformed(ActionEvent e) {
            jbtShowGrade_actionPerformed(e);
         }
      });
```

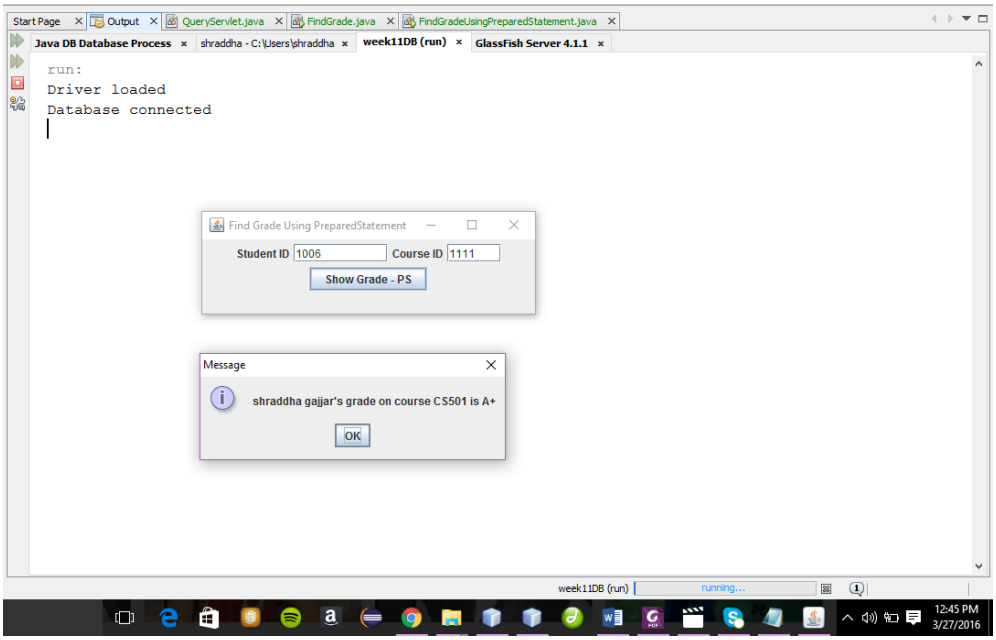
```
    JPanel jPanel1 = new JPanel();
    jPanel1.add(new JLabel("Student ID"));
    jPanel1.add(jtfID);
    jPanel1.add(new JLabel("Course ID"));
    jPanel1.add(jtfCourseId);
    jPanel1.add(jbtShowGrade);

    add(jPanel1, BorderLayout.CENTER);
  }

  private void initializeDB() {
    try {

      Class.forName("com.mysql.jdbc.Driver");
      System.out.println("Driver loaded");

      Connection connection = DriverManager.getConnection(CONN_STRING, USERNAME,
PASSWORD);
      System.out.println("Database connected");

      // Create a statement
      //stmt = (Statement) connection.createStatement();
      String queryString = "select firstname, lastname, subjectId, courseNumber, grade "
          + "from student, enrollment, course "
          + "where student.id = ? and enrollment.courseId = ? "
          + "and enrollment.courseId = course.courseId "
          + "and enrollment.id = student.id";

      // Create a statement
```

```
            preparedStatement = connection.prepareStatement(queryString);
        } catch (Exception ex) {
            ex.printStackTrace();
        }
    }

    private void jbtShowGrade_actionPerformed(ActionEvent e) {
        String studentId = jtfID.getText();
        String courseId = jtfCourseId.getText();
        try {
            preparedStatement.setString(1, studentId);
            preparedStatement.setString(2, courseId);
            ResultSet rset = preparedStatement.executeQuery();

            if (rset.next()) {
                String firstName = rset.getString(1);
                String lastName = rset.getString(2);
                String subject = rset.getString(3);
                String number = rset.getString(4);
                String grade = rset.getString(5);

                // Display result in a dialog box
                JOptionPane.showMessageDialog(null, firstName + " " + lastName
                        + "'s grade on course " + subject + number + " is " + grade);
            } else {
                // Display result in a dialog box
                JOptionPane.showMessageDialog(null, "Not found");
            }
        } catch (SQLException ex) {
```

```
            ex.printStackTrace();
        }
    }

    /**
     * Main method
     */
    public static void main(String[] args) {
        FindGradeUsingPreparedStatement frame = new FindGradeUsingPreparedStatement();
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.setTitle("Find Grade Using PreparedStatement");
        frame.setSize(380, 120);
        frame.setLocationRelativeTo(null); // Center the frame
        frame.setVisible(true);
    }
}
```

Output:





FindyourGrade.html

```
<!DOCTYPE html>
<!--
To change this license header, choose License Headers in Project Properties.
To change this template file, choose Tools | Templates
and open the template in the editor.
-->
<html>
    <head>
        <title>TODO supply a title</title>
        <meta charset="UTF-8">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
    </head>
    <body>
        <div><h3>Find Your Graders</h3></div>
```

```
      <div>
         <form method="get" action="Grade.jsp">
   <b>Student Id : </b>
   <input type="text" name="studentId" /><br/><br/>
   <b>Course Id : </b><input type="text" name="courseId" /><br/><br/>

   <input type="submit" value="Grade"/>          <input type="reset"
value="reset"/>
 </form>
      </div>
   </body>
</html>
```

Gra.jsp

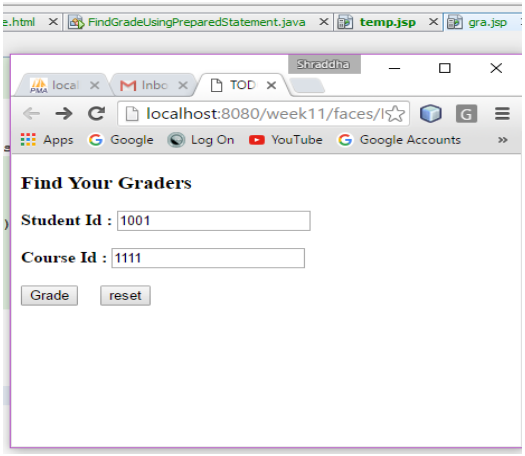
```
<%--
   Document   : gra
   Created on : Mar 29, 2016, 11:18:31 AM
   Author     : shraddha
--%>

<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.PreparedStatement"%>
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
   <head>
      <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
      <title>JSP Page</title>
   </head>
```

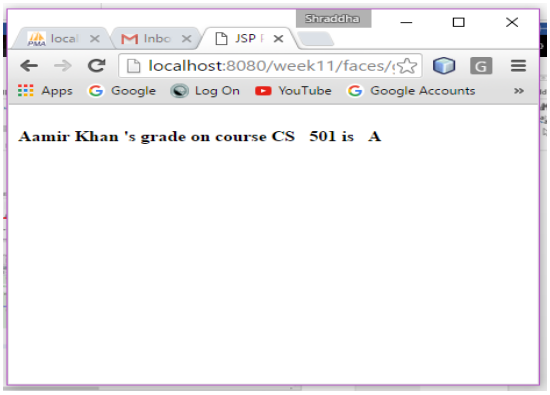
```
<body>

    <%@ page import="java.util.*" %>
    <%@ page import="javax.sql.*;" %>

    <%
        String id = (String) request.getParameter("studentId");
        String courseId = (String) request.getParameter("courseId");
        java.sql.Connection con;
        java.sql.Statement s;
        java.sql.ResultSet rs;
        java.sql.PreparedStatement pst;

        con = null;
        s = null;
        pst = null;
        rs = null;
        PreparedStatement ps = null;
        String url = "jdbc:mysql://localhost/student";
        String username = "root";
        String pass = null;

        try {
            Class.forName("com.mysql.jdbc.Driver");
            System.out.println("Driver loaded");
            con = java.sql.DriverManager.getConnection(url, username, pass);
            System.out.println("Database connected");
        } catch (ClassNotFoundException cnfe) {
            cnfe.printStackTrace();
```

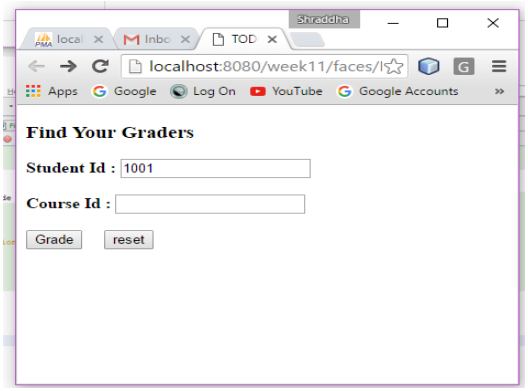
```
        }


        try {


            if (courseId.isEmpty()) {

            ps = con.prepareStatement("select `student`.`firstname`, `student`.`lastname`,
`course`.`subjectId`, `course`.`courseNumber`, `enrollment`.`grade` from
`student`.`student`,`student`.`enrollment`,`student`.`course` where `student`.`id` = ? and
`enrollment`.`courseId`=`course`.`courseId` and `enrollment`.`id` = `student`.`id`");

            ps.setInt(1, Integer.parseInt(id));


        }


        if (id.isEmpty()) {


            ps = con.prepareStatement("select `student`.`firstname`, `student`.`lastname`,
`course`.`subjectId`, `course`.`courseNumber`, `enrollment`.`grade` from
`student`.`student`,`student`.`enrollment`,`student`.`course` where `enrollment`.`courseId` = ? and
`enrollment`.`courseId`=`course`.`courseId` and `student`.`id` = `enrollment`.`id`");

            ps.setInt(1, Integer.parseInt(courseId));


        }

        if (!id.isEmpty() && !courseId.isEmpty()) {

            ps = con.prepareStatement("select `student`.`firstname`, `student`.`lastname`,
`course`.`subjectId`, `course`.`courseNumber`, `enrollment`.`grade` from
`student`.`student`,`student`.`enrollment`,`student`.`course` where `student`.`id` = ? and
`enrollment`.`courseId` = ? and `enrollment`.`courseId`=`course`.`courseId` and `enrollment`.`id` =
`student`.`id`");

            ps.setInt(1, Integer.parseInt(id));

            ps.setInt(2, Integer.parseInt(courseId));


        }
```

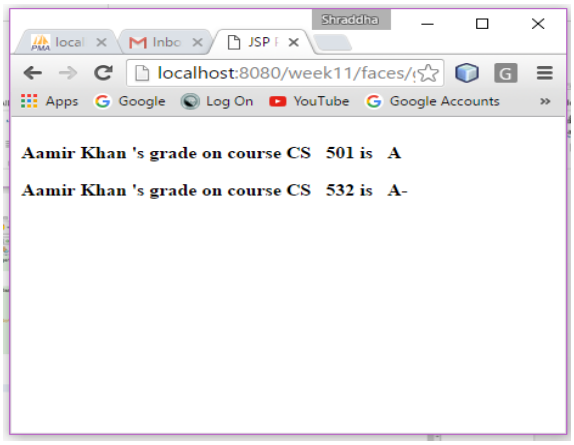
```
        ResultSet rset = ps.executeQuery();
        while (rset.next()) {
           String firstName = rset.getString(1);
           String lastName = rset.getString(2);
           String subject = rset.getString(3);
           String number = rset.getString(4);
           String grade = rset.getString(5);
     %>
     <font size ="3">
     <br/>
     <b><%= firstName%>  <%= lastName%> 's grade on course  <%= subject%>   <%= number%>
is   <%= grade%> <br/></b> </font> <%
           }

        } catch (Exception e) {
           System.err.println("Got an exception! " + e);
        }

     %>

  </body>
</html>
```

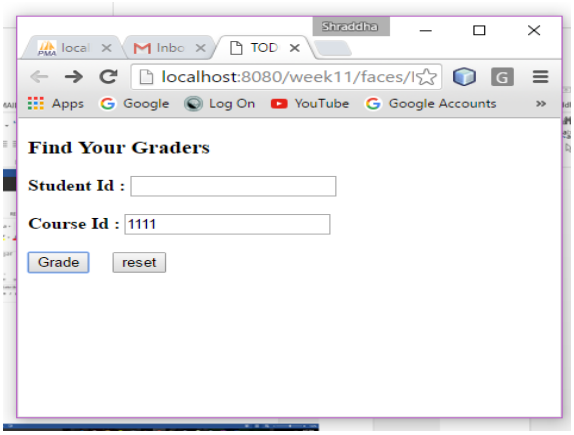
Output:

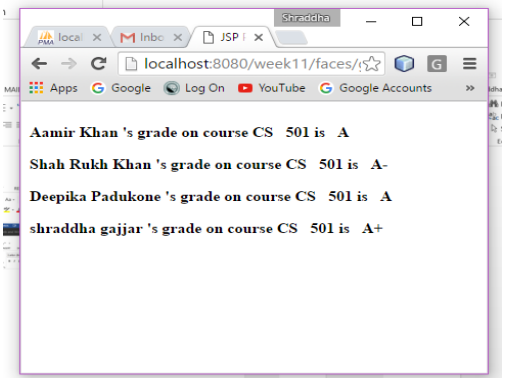

FindGradeUsingPreparedStatement.java
temp.jsp
gra.jsp
Shraddha
localhost:8080/week11/faces/I
Apps
Google
Log On
YouTube
Google Accounts
Find Your Graders
Student Id : 1001
Course Id : 1111
Grade
reset

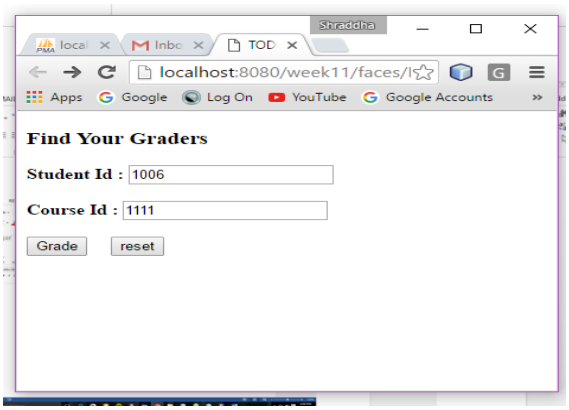

Shraddha
localhost:8080/week11/faces/
Apps
Google
Log On
YouTube
Google Accounts
Aamir Khan 's grade on course CS 501 is A

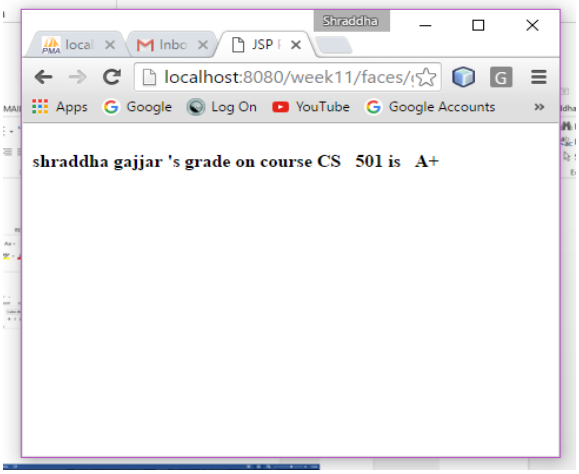

Shraddha
localhost:8080/week11/faces/I
Apps
Google
Log On
YouTube
Google Accounts
Find Your Graders
Student Id : 1001
Course Id :
Grade
reset


Shraddha
localhost:8080/week11/faces/
Apps Google Log On YouTube Google Accounts
Aamir Khan 's grade on course CS 501 is A
Aamir Khan 's grade on course CS 532 is A-


Shraddha
localhost:8080/week11/faces/
Apps Google Log On YouTube Google Accounts
Find Your Graders
Student Id :
Course Id : 1111
Grade
reset


Shraddha
localhost:8080/week11/faces/
Apps Google Log On YouTube Google Accounts
Aamir Khan 's grade on course CS 501 is A
Shah Rukh Khan 's grade on course CS 501 is A-
Deepika Padukone 's grade on course CS 501 is A
shraddha gajjar 's grade on course CS 501 is A+


Shraddha
localhost:8080/week11/faces/l
Apps
Google
Log On
YouTube
Google Accounts
Find Your Graders
Student Id : 1006
Course Id : 1111
Grade
reset


Shraddha
localhost:8080/week11/faces/
Apps
Google
Log On
YouTube
Google Accounts
shraddha gajjar 's grade on course CS 501 is A+