CS 122B Project 5 Report

Team-88

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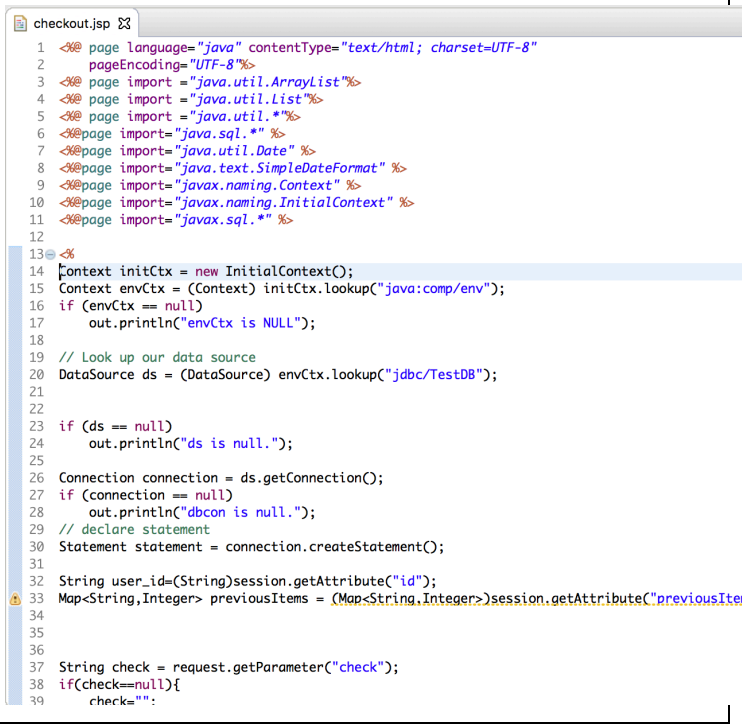
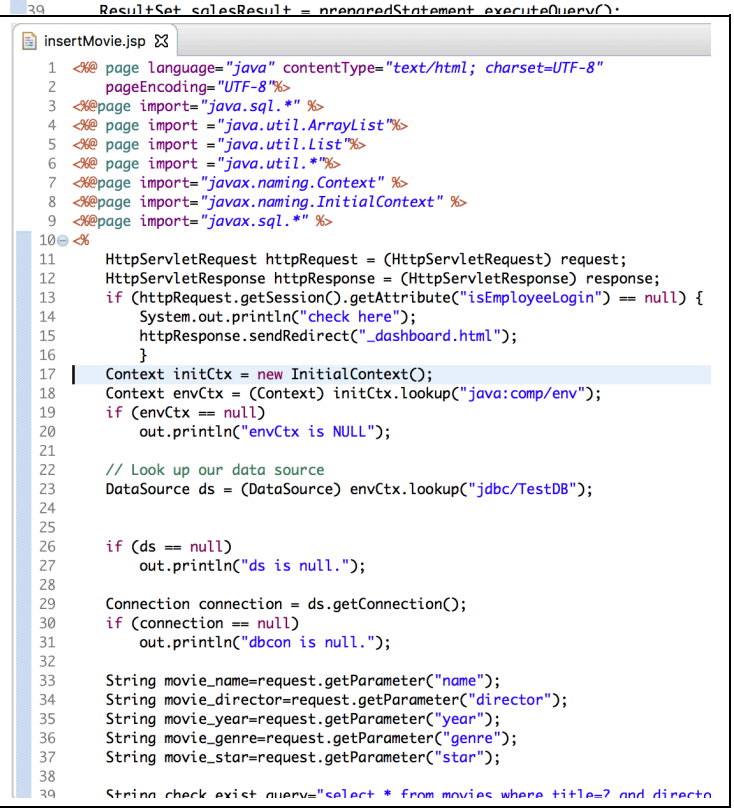
Task 1:

1. Connection Polling:

File Name	Line Number	Snapshot
_dashboard.jsp	23	_dashboard.jsp 3 <%@ page import ="java.util.ArrayList"%> 4 <%@ page import ="java.util.List"%> 5 <%@ page import ="java.util.*"%> 6 <%@page import="java.sql.*" %> 7 8 <%@page import="java.util.Date" %> 9 <%@page import="java.text.SimpleDateFormat" %> 10 <%@page import="javax.naming.Context" %> 11 <%@page import="javax.naming.InitialContext" %> 12 <%@page import="javax.sql.*" %> 13 <% 14 HttpServletRequest httpRequest = (HttpServletRequest) request; 15 HttpServletResponse httpResponse = (HttpServletResponse) response; 16 if (httpRequest.getSession().getAttribute("isEmployeeLogin") == null) { 17 System.out.println("check here"); 18 httpResponse.sendRedirect("_dashboard.html"); 19 } 20 21 22 23 Context initCtx = new InitialContext(); 24 Context envCtx = (Context) initCtx.lookup("java:comp/env"); 25 if (envCtx == null) 26 out.println("envCtx is NULL"); 27 28 // Look up our data source 29 DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB"); 30 31 32 if (ds == null) 33 out.println("ds is null."); 34 35 Connection connection = ds.getConnection(); 36 if (connection == null) 37 out.println("dbcon is null."); 38 39

BrowsePage.jsp	16	
checkout.jsp	14	

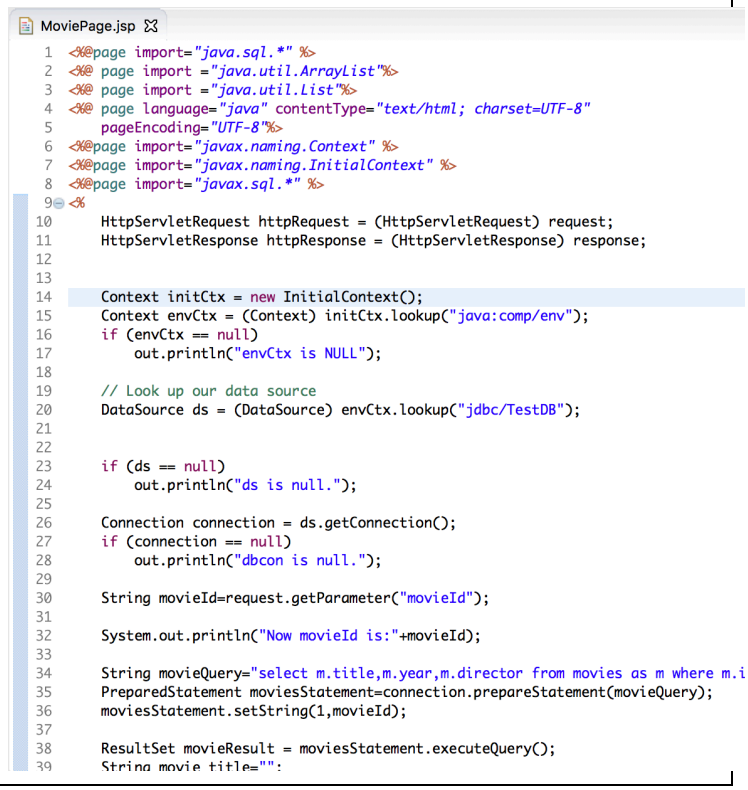
confirmation.jsp	13	
insertMovie.jsp	17	

confirmation.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import ="java.util.ArrayList"%>
<%@ page import ="java.util.List"%>
<%@ page import ="java.util.*"%>
<%@page import="java.sql.*" %>
<%@page import="java.util.Date" %>
<%@page import="java.text.SimpleDateFormat" %>
<%@page import="javax.naming.Context" %>
<%@page import="javax.naming.InitialContext" %>
<%@page import="javax.sql.*" %>
<%
Context initCtx = new InitialContext();
Context envCtx = (Context) initCtx.lookup("java:comp/env");
if (envCtx == null)
    out.println("envCtx is NULL");

// Look up our data source
DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");


if (ds == null)
    out.println("ds is null.");

Connection connection = ds.getConnection();
if (connection == null)
    out.println("dbcon is null.");

String user_id=(String)session.getAttribute("id");
Date date = new Date();
SimpleDateFormat dateFormat= new SimpleDateFormat("yyyy/MM/dd");

String query="select s.id ,m.title from sales as s , movies as m "
    + "where s.saleDate=? and s.customerId=? and s.movieId=m.id;";
    PreparedStatement preparedStatement =connection.prepareStatement(query
    preparedStatement.setString(1,dateFormat.format(date));
    preparedStatement.setString(2,user_id);

    ResultSet salesResult = preparedStatement.executeQuery();
```

insertMovie.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@page import="java.sql.*" %>
<%@ page import ="java.util.ArrayList"%>
<%@ page import ="java.util.List"%>
<%@ page import ="java.util.*"%>
<%@page import="javax.naming.Context" %>
<%@page import="javax.naming.InitialContext" %>
<%@page import="javax.sql.*" %>
<%
    HttpServletRequest httpRequest = (HttpServletRequest) request;
    HttpServletResponse httpResponse = (HttpServletResponse) response;
    if (httpRequest.getSession().getAttribute("isEmployeeLogin") == null) {
        System.out.println("check here");
        httpResponse.sendRedirect("_dashboard.html");
        }
    Context initCtx = new InitialContext();
    Context envCtx = (Context) initCtx.lookup("java:comp/env");
    if (envCtx == null)
        out.println("envCtx is NULL");

    // Look up our data source
    DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");


    if (ds == null)
        out.println("ds is null.");

    Connection connection = ds.getConnection();
    if (connection == null)
        out.println("dbcon is null.");

    String movie_name=request.getParameter("name");
    String movie_director=request.getParameter("director");
    String movie_year=request.getParameter("year");
    String movie_genre=request.getParameter("genre");
    String movie_star=request.getParameter("star");

    String check_exist_query="select * from movies where title=? and directo
```

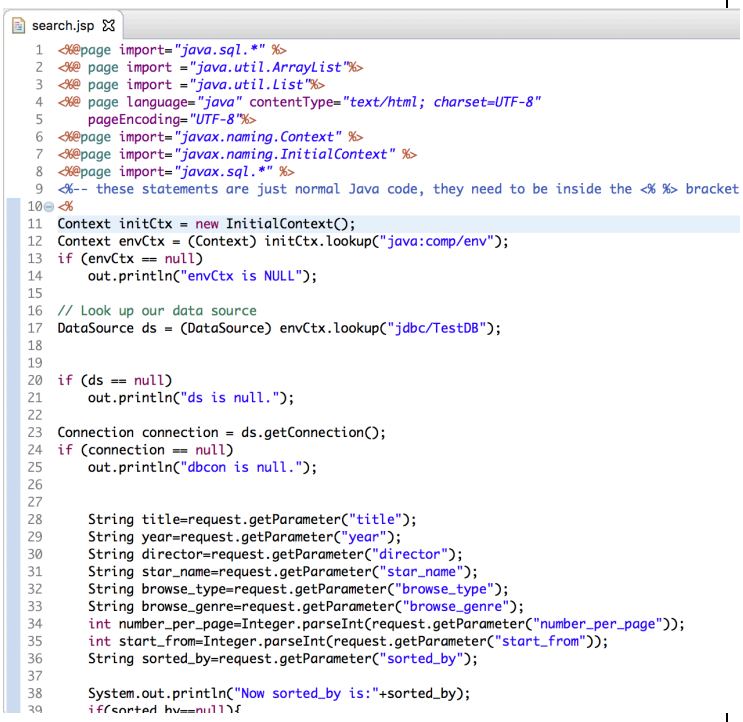
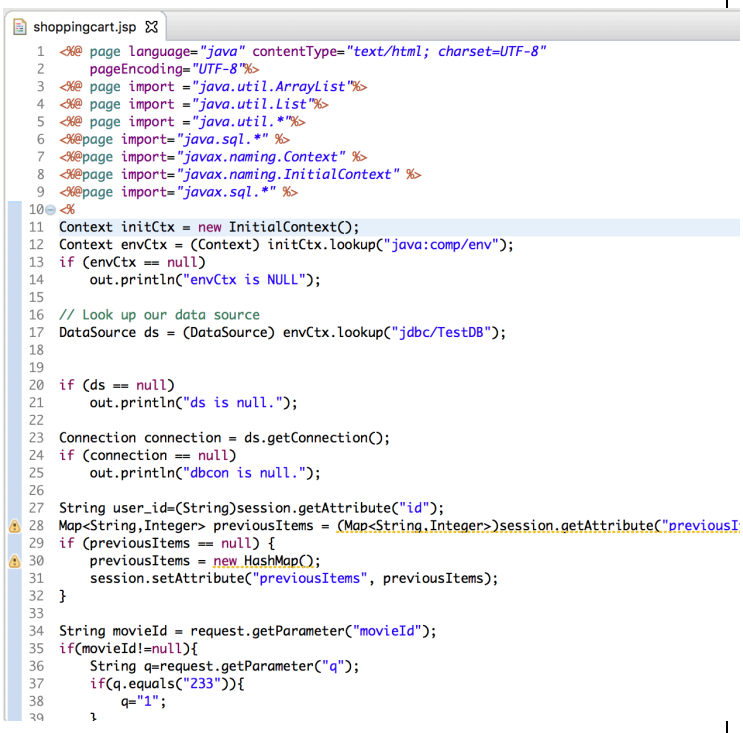
insertStar.jsp	12	
MoviePage.jsp	14	

insertStar.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import ="java.util.ArrayList"%>
<%@ page import ="java.util.List"%>
<%@ page import ="java.util.*"%>
<%@page import="java.sql.*" %>
<%@page import="javax.naming.Context" %>
<%@page import="javax.naming.InitialContext" %>
<%@page import="javax.sql.*" %>

<%
Context initCtx = new InitialContext();
Context envCtx = (Context) initCtx.lookup("java:comp/env");
if (envCtx == null)
    out.println("envCtx is NULL");

// Look up our data source
DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");


if (ds == null)
    out.println("ds is null.");

Connection connection = ds.getConnection();
if (connection == null)
    out.println("dbcon is null.");
// declare statement
String star_name=request.getParameter("name");
String star_year=request.getParameter("year");
if(star_year.equals("")){
    star_year=null;
}
String maxIDquery="select max(id) as id from stars;";
System.out.println(star_year);
PreparedStatement preparedStatement =connection.prepareStatement(maxIDquery
ResultSet rs=preparedStatement.executeQuery();
String maxid="";
while(rs.next()){
    maxid = rs.getString("id");
```

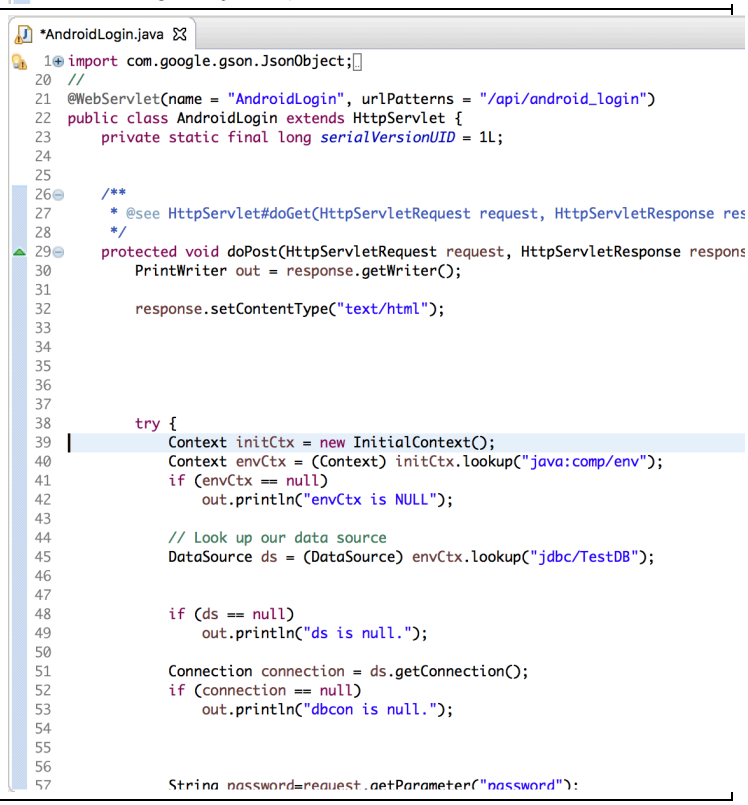
MoviePage.jsp

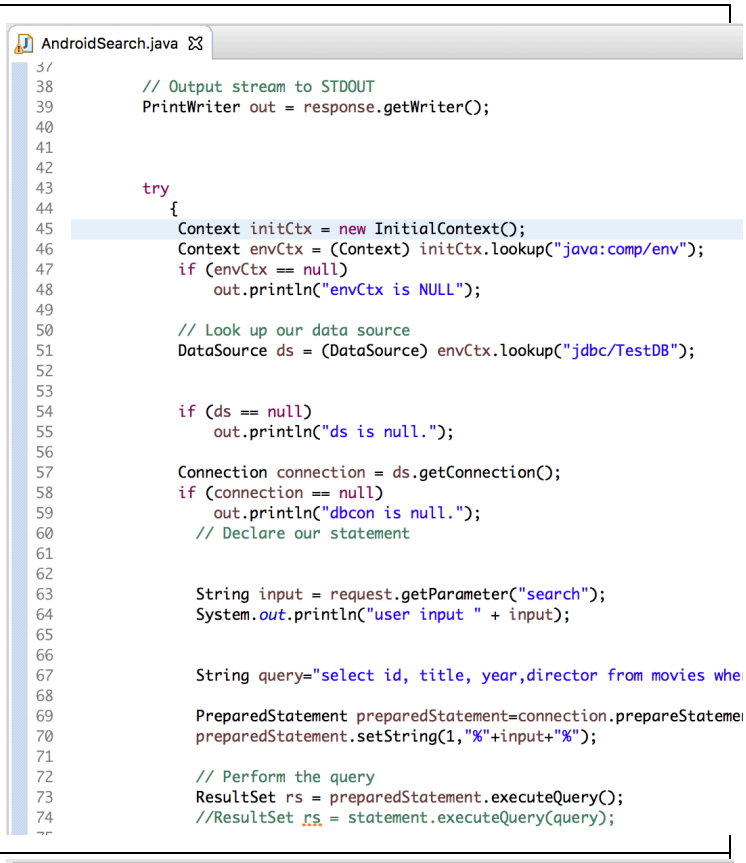
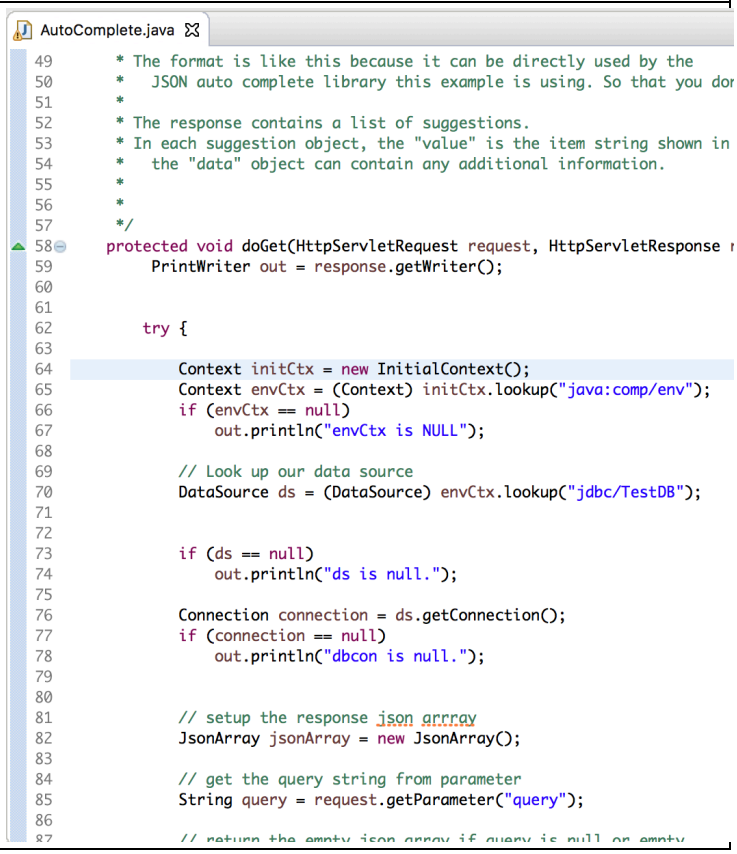
```
<%@page import="java.sql.*" %>
<%@ page import ="java.util.ArrayList"%>
<%@ page import ="java.util.List"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@page import="javax.naming.Context" %>
<%@page import="javax.naming.InitialContext" %>
<%@page import="javax.sql.*" %>
<%
    HttpServletRequest httpRequest = (HttpServletRequest) request;
    HttpServletResponse httpResponse = (HttpServletResponse) response;


    Context initCtx = new InitialContext();
    Context envCtx = (Context) initCtx.lookup("java:comp/env");
    if (envCtx == null)
        out.println("envCtx is NULL");

    // Look up our data source
    DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");


    if (ds == null)
        out.println("ds is null.");

    Connection connection = ds.getConnection();
    if (connection == null)
        out.println("dbcon is null.");

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

    System.out.println("Now movieId is:"+movieId);

    String movieQuery="select m.title,m.year,m.director from movies as m where m.i
    PreparedStatement moviesStatement=connection.prepareStatement(movieQuery);
    moviesStatement.setString(1,movieId);

    ResultSet movieResult = moviesStatement.executeQuery();
    String movie_title="";
```

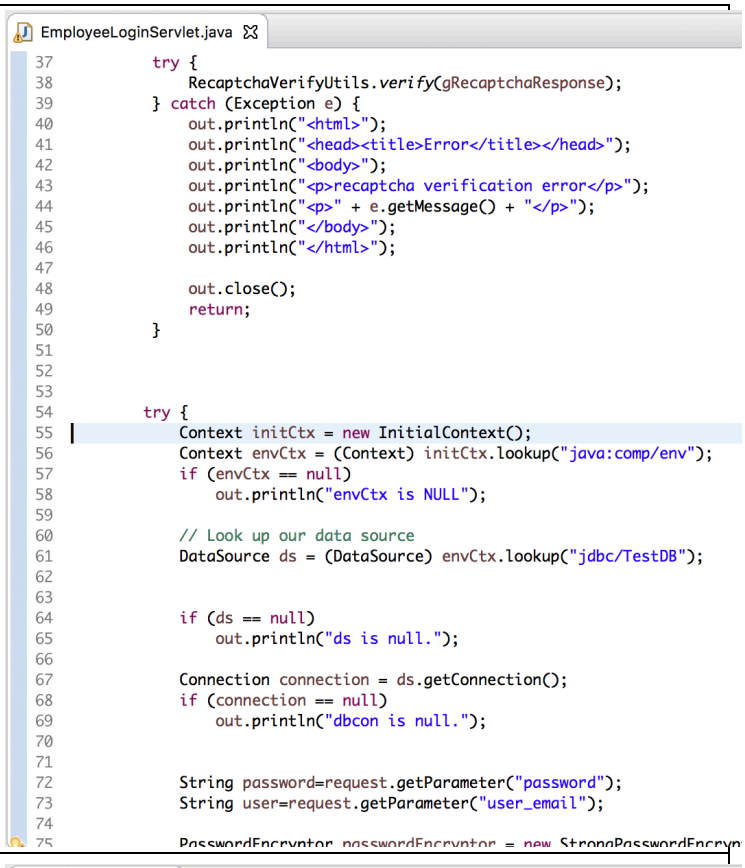
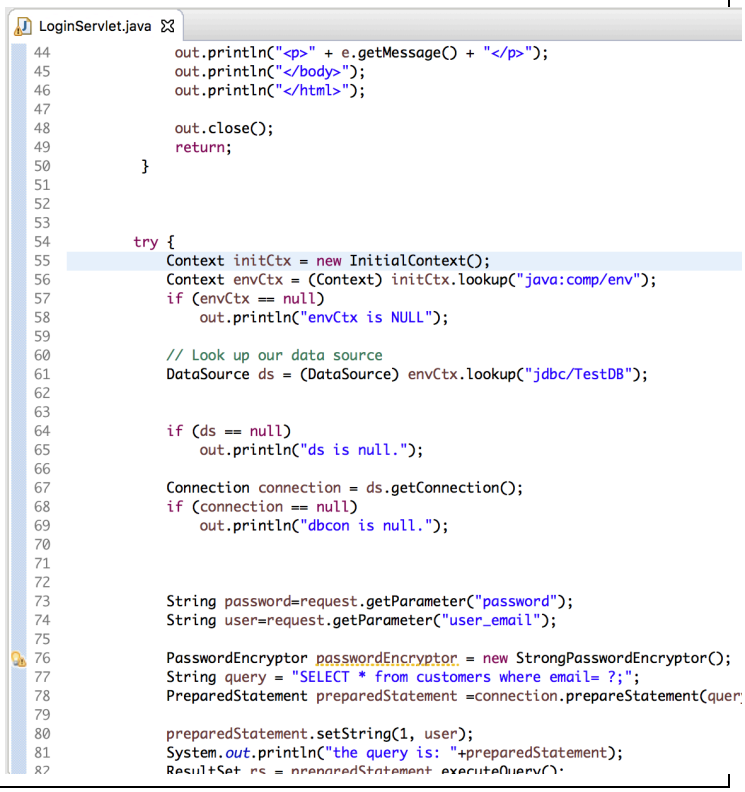
search.jsp	11	search.jsp 
shoppingcart.jsp	11	shoppingcart.jsp 

```jsp
<%@page import="java.sql.*" %>
<%@ page import ="java.util.ArrayList"%>
<%@ page import ="java.util.List"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@page import="javax.naming.Context" %>
<%@page import="javax.naming.InitialContext" %>
<%@page import="javax.sql.*" %>
<%-- these statements are just normal Java code, they need to be inside the <% %> bracket
<%
Context initCtx = new InitialContext();
Context envCtx = (Context) initCtx.lookup("java:comp/env");
if (envCtx == null)
    out.println("envCtx is NULL");

// Look up our data source
DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");


if (ds == null)
    out.println("ds is null.");

Connection connection = ds.getConnection();
if (connection == null)
    out.println("dbcon is null.");


    String title=request.getParameter("title");
    String year=request.getParameter("year");
    String director=request.getParameter("director");
    String star_name=request.getParameter("star_name");
    String browse_type=request.getParameter("browse_type");
    String browse_genre=request.getParameter("browse_genre");
    int number_per_page=Integer.parseInt(request.getParameter("number_per_page"));
    int start_from=Integer.parseInt(request.getParameter("start_from"));
    String sorted_by=request.getParameter("sorted_by");

    System.out.println("Now sorted_by is:"+sorted_by);
    if(sorted_by==null){
```

```jsp
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import ="java.util.ArrayList"%>
<%@ page import ="java.util.List"%>
<%@ page import ="java.util.*"%>
<%@page import="java.sql.*" %>
<%@page import="javax.naming.Context" %>
<%@page import="javax.naming.InitialContext" %>
<%@page import="javax.sql.*" %>
<%
Context initCtx = new InitialContext();
Context envCtx = (Context) initCtx.lookup("java:comp/env");
if (envCtx == null)
    out.println("envCtx is NULL");

// Look up our data source
DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");


if (ds == null)
    out.println("ds is null.");

Connection connection = ds.getConnection();
if (connection == null)
    out.println("dbcon is null.");

String user_id=(String)session.getAttribute("id");
Map<String,Integer> previousItems = (Map<String,Integer>)session.getAttribute("previousI
if (previousItems == null) {
    previousItems = new HashMap();
    session.setAttribute("previousItems", previousItems);
}

String movieId = request.getParameter("movieId");
if(movieId!=null){
    String q=request.getParameter("q");
    if(q.equals("233")){
        q="1";
    }
```

StarPage.jsp	13	
AndroidLogin.java	39	

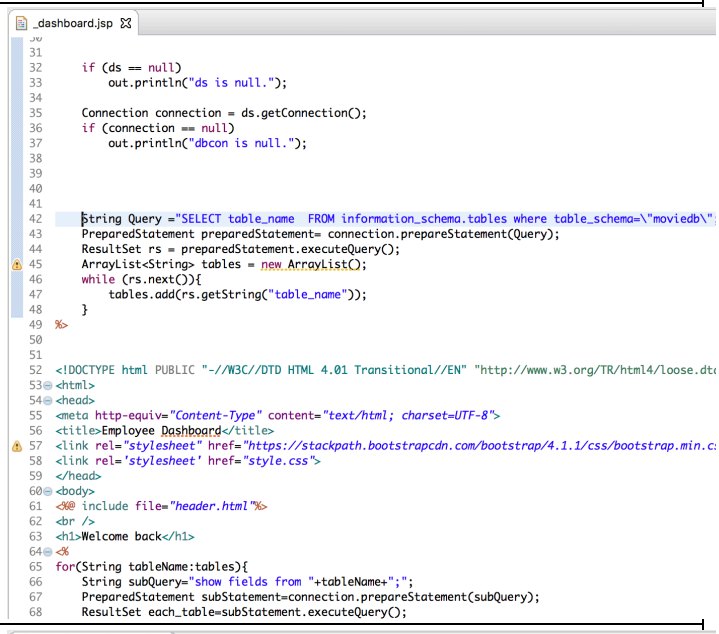
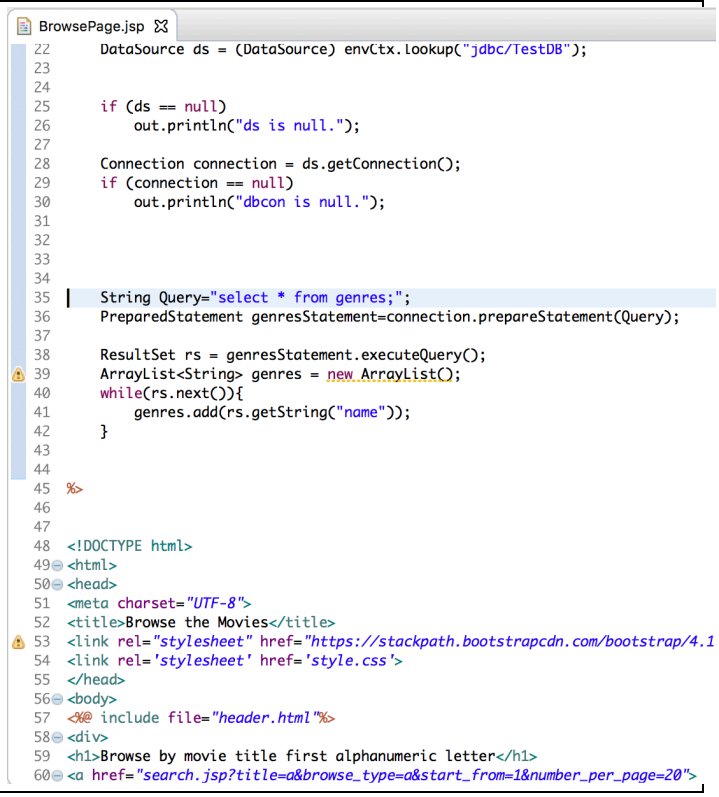
AndroidSearch.java	45	
AutoComplete.java	64	

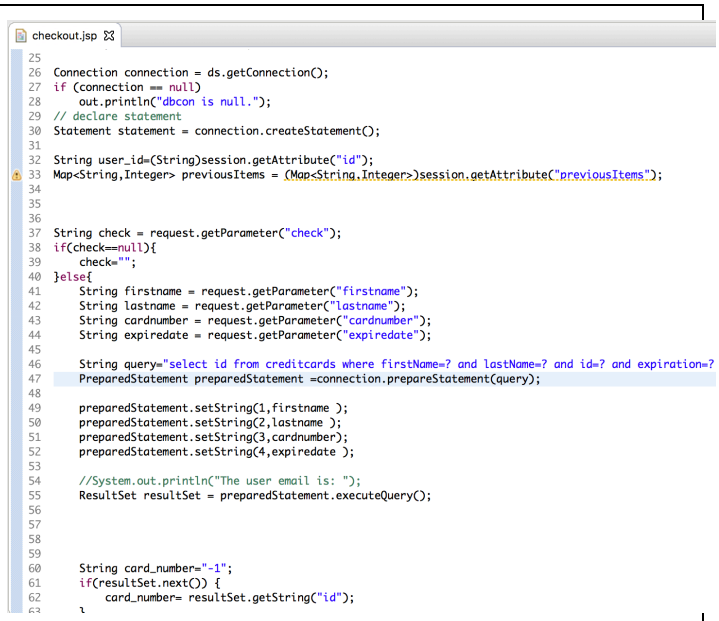
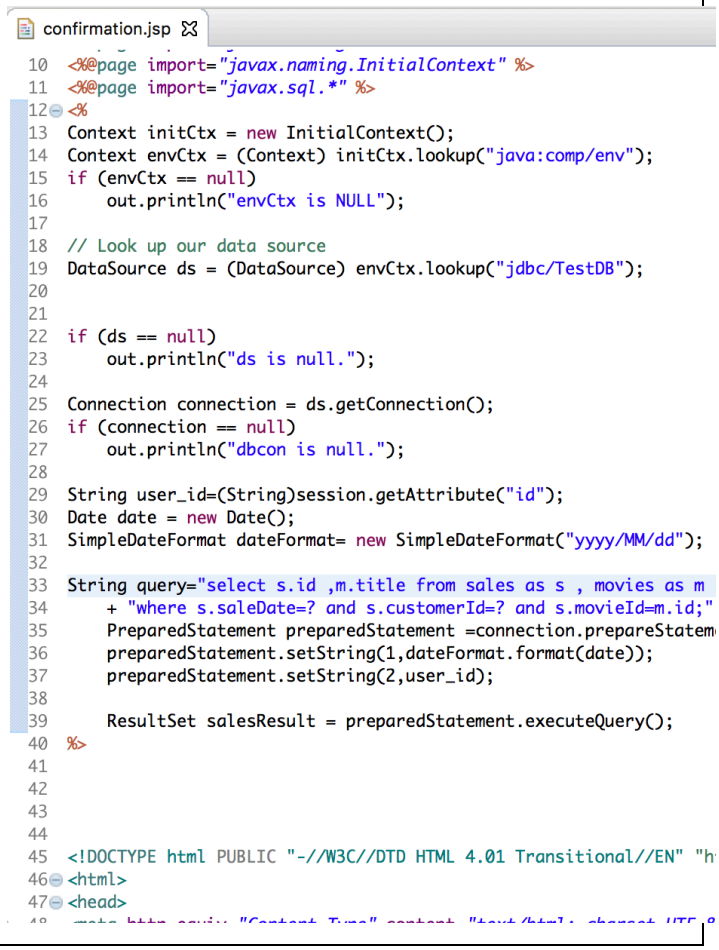
EmployeeLoginServlet.java	55	
LoginServlet.java	55	

How connection polling was implemented:

We removed the codes of username, password and URL, as well as the code that we used to make JDBC connection with. Then we implemented the codes from the given example, which will get information about JDBC from “META-INF/content.xml”.

2. Prepared statements:

File Name	Line Number	Snapshot
_dashboard.jsp	42	
BrowsePage.jsp	35	

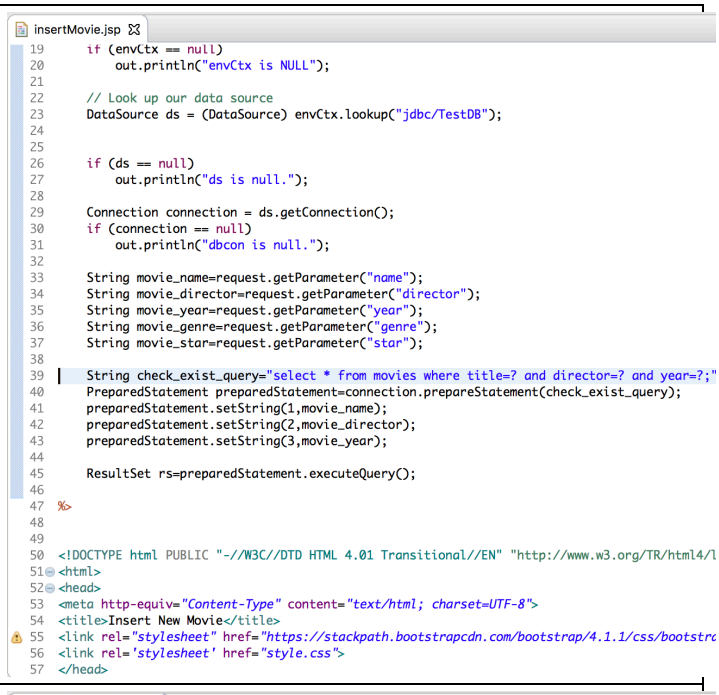
checkout.jsp	47	
confirmation.jsp	33	

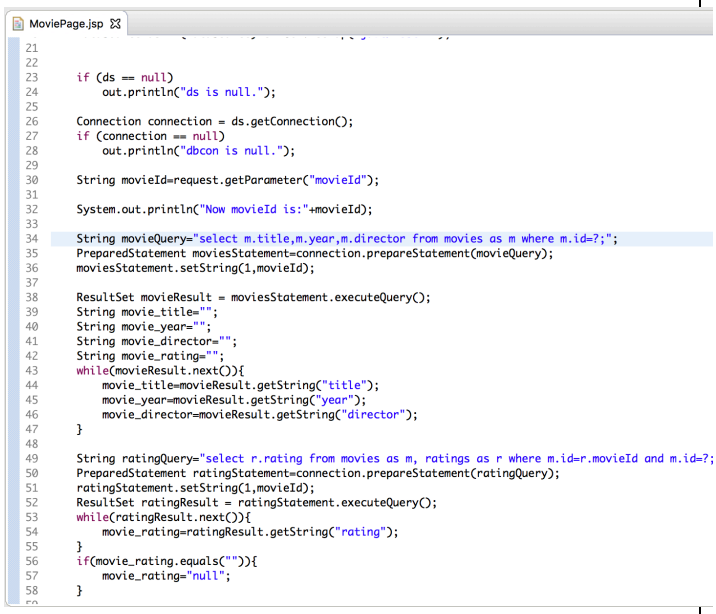
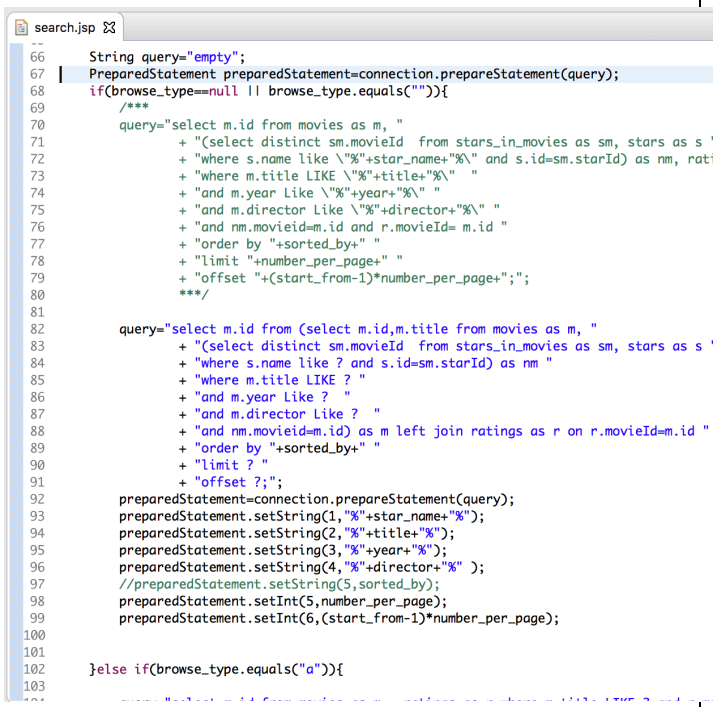
checkout.jsp

```
25
26  Connection connection = ds.getConnection();
27  if (connection == null)
28      out.println("dbcon is null.");
29  // declare statement
30  Statement statement = connection.createStatement();
31
32  String user_id=(String)session.getAttribute("id");
33  Map<String,Integer> previousItems = (Map<String,Integer>)session.getAttribute("previousItems");
34
35
36
37  String check = request.getParameter("check");
38  if(check==null){
39      check="";
40  }else{
41      String firstname = request.getParameter("firstname");
42      String lastname = request.getParameter("lastname");
43      String cardnumber = request.getParameter("cardnumber");
44      String expiredate = request.getParameter("expiredate");
45
46      String query="select id from creditcards where firstName=? and lastName=? and id=? and expiration=?
47      PreparedStatement preparedStatement =connection.prepareStatement(query);
48
49      preparedStatement.setString(1,firstname );
50      preparedStatement.setString(2,lastname );
51      preparedStatement.setString(3,cardnumber);
52      preparedStatement.setString(4,expiredate );
53
54      //System.out.println("The user email is: ");
55      ResultSet resultSet = preparedStatement.executeQuery();
56
57
58
59
60      String card_number="-1";
61      if(resultSet.next()) {
62          card_number= resultSet.getString("id");
63      }
```

confirmation.jsp

```
10  <%@page import="javax.naming.InitialContext" %>
11  <%@page import="javax.sql.*" %>
12  <%
13  Context initCtx = new InitialContext();
14  Context envCtx = (Context) initCtx.lookup("java:comp/env");
15  if (envCtx == null)
16      out.println("envCtx is NULL");
17
18  // Look up our data source
19  DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
20
21
22  if (ds == null)
23      out.println("ds is null.");
24
25  Connection connection = ds.getConnection();
26  if (connection == null)
27      out.println("dbcon is null.");
28
29  String user_id=(String)session.getAttribute("id");
30  Date date = new Date();
31  SimpleDateFormat dateFormat= new SimpleDateFormat("yyyy/MM/dd");
32
33  String query="select s.id ,m.title from sales as s , movies as m
34      + "where s.saleDate=? and s.customerId=? and s.movieId=m.id;"
35      PreparedStatement preparedStatement =connection.prepareStatem
36      preparedStatement.setString(1,dateFormat.format(date));
37      preparedStatement.setString(2,user_id);
38
39      ResultSet salesResult = preparedStatement.executeQuery();
40  %>
41
42
43
44
45  <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "h
46  <html>
47  <head>
```

insertMovie.jsp	39	
insertStar.jsp	43	

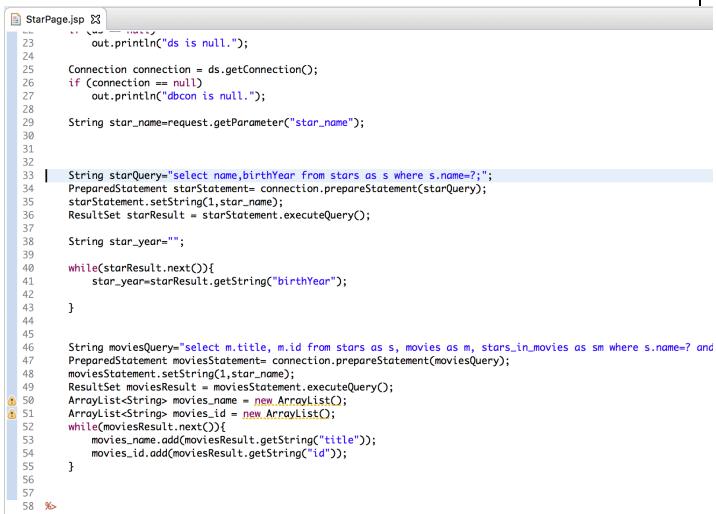
MoviePage.jsp	34	
search.jsp	67	

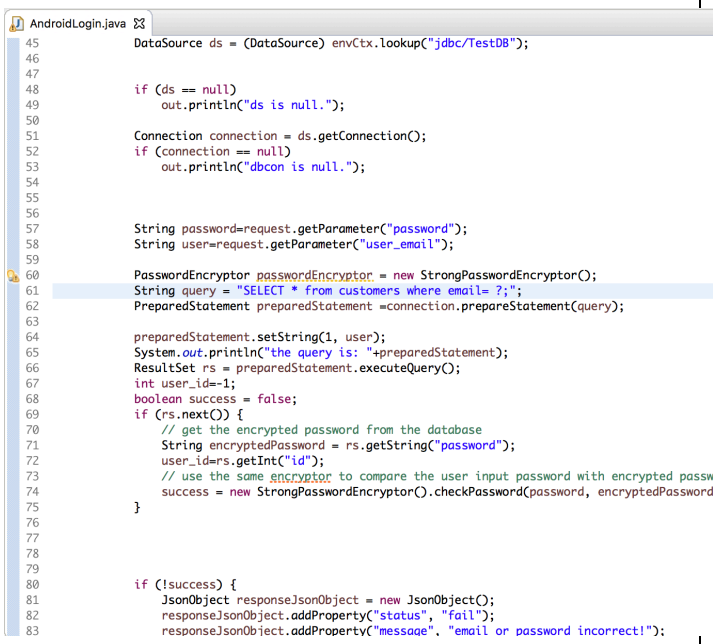
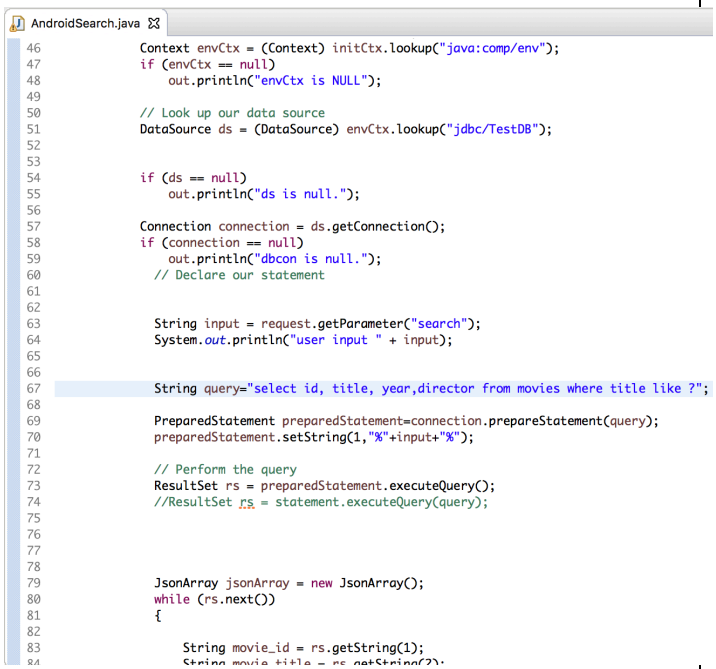
MoviePage.jsp

```
21
22
23      if (ds == null)
24          out.println("ds is null.");
25
26      Connection connection = ds.getConnection();
27      if (connection == null)
28          out.println("dbcon is null.");
29
30      String movieId=request.getParameter("movieId");
31
32      System.out.println("Now movieId is:"+movieId);
33
34      String movieQuery="select m.title,m.year,m.director from movies as m where m.id=?;";
35      PreparedStatement moviesStatement=connection.prepareStatement(movieQuery);
36      moviesStatement.setString(1,movieId);
37
38      ResultSet movieResult = moviesStatement.executeQuery();
39      String movie_title="";
40      String movie_year="";
41      String movie_director="";
42      String movie_rating="";
43      while(movieResult.next()){
44          movie_title=movieResult.getString("title");
45          movie_year=movieResult.getString("year");
46          movie_director=movieResult.getString("director");
47      }
48
49      String ratingQuery="select r.rating from movies as m, ratings as r where m.id=r.movieId and m.id=?;
50      PreparedStatement ratingStatement=connection.prepareStatement(ratingQuery);
51      ratingStatement.setString(1,movieId);
52      ResultSet ratingResult = ratingStatement.executeQuery();
53      while(ratingResult.next()){
54          movie_rating=ratingResult.getString("rating");
55      }
56      if(movie_rating.equals("")){
57          movie_rating="null";
58      }
```

search.jsp

```
66      String query="empty";
67      PreparedStatement preparedStatement=connection.prepareStatement(query);
68      if(browse_type==null || browse_type.equals("")){
69          /***
70          query="select m.id from movies as m, "
71                  + "(select distinct sm.movieId  from stars_in_movies as sm, stars as s "
72                  + "where s.name like \"%"+star_name+"%\" and s.id=sm.starId) as nm, rat
73                  + "where m.title LIKE \"%"+title+"%\"  "
74                  + "and m.year Like \"%"+year+"%\" "
75                  + "and m.director Like \"%"+director+"%\" "
76                  + "and nm.movieid=m.id and r.movieId= m.id "
77                  + "order by "+sorted_by+" "
78                  + "limit "+number_per_page+" "
79                  + "offset "+(start_from-1)*number_per_page+";";
80                  ***/
81
82          query="select m.id from (select m.id,m.title from movies as m, "
83                  + "(select distinct sm.movieId  from stars_in_movies as sm, stars as s "
84                  + "where s.name like ? and s.id=sm.starId) as nm "
85                  + "where m.title LIKE ? "
86                  + "and m.year Like ?  "
87                  + "and m.director Like ?  "
88                  + "and nm.movieid=m.id) as m left join ratings as r on r.movieId=m.id "
89                  + "order by "+sorted_by+" "
90                  + "limit ? "
91                  + "offset ?;";
92          preparedStatement=connection.prepareStatement(query);
93          preparedStatement.setString(1,"%"+star_name+"%");
94          preparedStatement.setString(2,"%"+title+"%");
95          preparedStatement.setString(3,"%"+year+"%");
96          preparedStatement.setString(4,"%"+director+"%" );
97          //preparedStatement.setString(5,sorted_by);
98          preparedStatement.setInt(5,number_per_page);
99          preparedStatement.setInt(6,(start_from-1)*number_per_page);
100
101
102     }else if(browse_type.equals("a")){
103
```

shoppingcart.jsp	81	
StarPage.jsp	33	

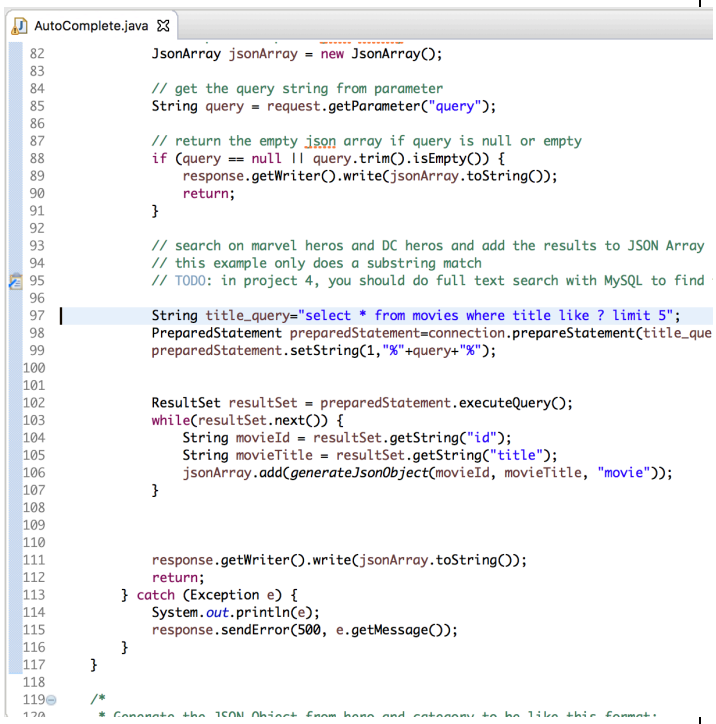
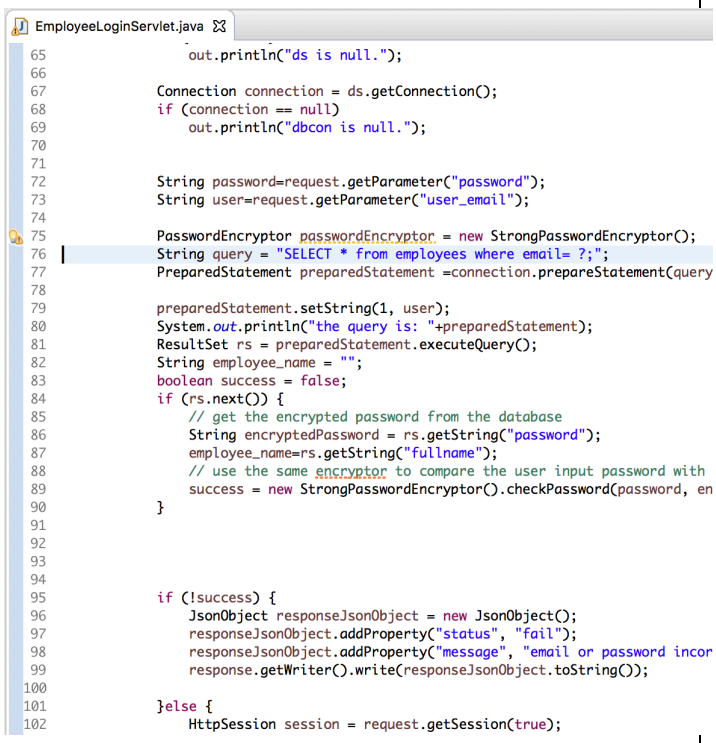
AndroidLogin.java	61	
AndroidSearch.java	67	

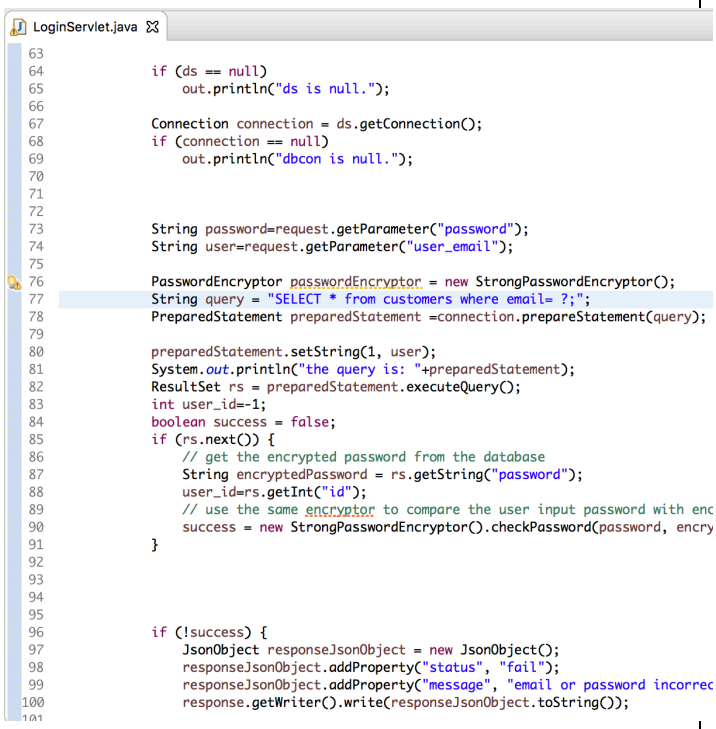
AndroidLogin.java

```
45              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
46
47
48              if (ds == null)
49                  out.println("ds is null.");
50
51              Connection connection = ds.getConnection();
52              if (connection == null)
53                  out.println("dbcon is null.");
54
55
56
57              String password=request.getParameter("password");
58              String user=request.getParameter("user_email");
59
60              PasswordEncryptor passwordEncryptor = new StrongPasswordEncryptor();
61              String query = "SELECT * from customers where email= ?;";
62              PreparedStatement preparedStatement =connection.prepareStatement(query);
63
64              preparedStatement.setString(1, user);
65              System.out.println("the query is: "+preparedStatement);
66              ResultSet rs = preparedStatement.executeQuery();
67              int user_id=-1;
68              boolean success = false;
69              if (rs.next()) {
70                  // get the encrypted password from the database
71                  String encryptedPassword = rs.getString("password");
72                  user_id=rs.getInt("id");
73                  // use the same encryptor to compare the user input password with encrypted passw
74                  success = new StrongPasswordEncryptor().checkPassword(password, encryptedPassword
75              }
76
77
78
79
80              if (!success) {
81                  JsonObject responseJsonObject = new JsonObject();
82                  responseJsonObject.addProperty("status", "fail");
83                  responseJsonObject.addProperty("message", "email or password incorrect!");
```

AndroidSearch.java

```
46              Context envCtx = (Context) initCtx.lookup("java:comp/env");
47              if (envCtx == null)
48                  out.println("envCtx is NULL");
49
50              // Look up our data source
51              DataSource ds = (DataSource) envCtx.lookup("jdbc/TestDB");
52
53
54              if (ds == null)
55                  out.println("ds is null.");
56
57              Connection connection = ds.getConnection();
58              if (connection == null)
59                  out.println("dbcon is null.");
60                // Declare our statement
61
62
63                String input = request.getParameter("search");
64                System.out.println("user input " + input);
65
66
67                String query="select id, title, year,director from movies where title like ?";
68
69                PreparedStatement preparedStatement=connection.prepareStatement(query);
70                preparedStatement.setString(1,"%"+input+"%");
71
72                // Perform the query
73                ResultSet rs = preparedStatement.executeQuery();
74                //ResultSet rs = statement.executeQuery(query);
75
76
77
78
79                JsonArray jsonArray = new JsonArray();
80                while (rs.next())
81                {
82
83                    String movie_id = rs.getString(1);
84                    String movie_title = rs.getString(2);
```

AutoComplete.java	97	
EmployeeLoginServlet.java	76	

LoginServlet.java	77	

How prepared statement was implemented?

We use prepared statements to replace the statements that created by connection.createStatement(), and use setString()/setInt() to fill in the "?" in the prepared statement to make it be a full search query.