

```

1 CREATE TABLE BOARD
2 (
3     NUM          NUMBER(4)           PRIMARY KEY,
4     WRITER       VARCHAR2(20),
5     EMAIL        VARCHAR2(30),
6     SUBJECT      VARCHAR2(100),
7     PASSWD       VARCHAR2(20),
8     REG_DATE    DATE              DEFAULT SYSDATE,
9     READCOUNT   NUMBER(4)         DEFAULT 0,
10    REF          NUMBER(4),
11    RE_STEP     NUMBER(4),
12    RE_LEVEL    NUMBER(4),
13    CONTENT     VARCHAR2(4000),
14    IP          VARCHAR2(20)
15 );
16
17 -- CREATE SEQUENCE BOARD_SEQ;
18
19
20 SELECT ROWNUM
21 , O.*
22 FROM CUSTOMER O
23 ORDER BY CODE;
24
25 SELECT ROWNUM
26 , O.*
27 FROM ( SELECT *
28         FROM CUSTOMER
29         ORDER BY CODE
30     ) O;
31
32 SELECT *
33 FROM ( SELECT ROWNUM RNUM
34 , O.*
35     FROM ( SELECT *
36             FROM CUSTOMER
37             ORDER BY CODE
38         ) O
39     )
40 WHERE RNUM >= 6 --시작행 번호
41 AND RNUM <= 5;--FETCH 건수
42
43 -- pagesize가 10일 때 1 page의 첫 ROW는 1번이고 마지막은 10번
44 -- pagesize가 10일 때 2 page의 첫 ROW는 11번이고 마지막은 20번
45 -- pagesize가 10일 때 3 page의 첫 ROW는 21번이고 마지막은 30번
46 SELECT *
47 FROM (
48     SELECT ROWNUM RNUM
49 , O.*
50     FROM (
51         SELECT *
52         FROM BOARD
53         ORDER BY REF DESC
54             , RE_STEP ASC
55     ) O
56     )
57 -- WHERE RNUM >= 시작ROW번호
58 -- AND RNUM <= 끝ROW번호(=시작ROW번호 + 페이지당건수 - 1)
59 -- WHERE RNUM >= 1
60 -- AND RNUM <= 10;
61 -- WHERE RNUM >= 11
62 -- AND RNUM <= 20;
63 -- 다른 버전
64 -- pagesize가 10일 때 1 page의 첫 ROW는 1번
65 -- pagesize가 10일 때 2 page의 첫 ROW는 11번
66 -- pagesize가 10일 때 3 page의 첫 ROW는 21번
67 -- WHERE RNUM >= 시작ROW값
68 -- AND ROWNUM <= 페이지당건수
69 -- WHERE RNUM >= 1
70 -- AND ROWNUM <= 10
71 -- WHERE RNUM >= 11
72 -- AND ROWNUM <= 10

```

```
1 package ch11;
2
3 import java.sql.Timestamp;
4
5 public class Ch11BoardDataBean {
6     private int num;
7     private String writer;
8     private String subject;
9     private String email;
10    private String content;
11    private String passwd;
12    private Timestamp reg_date;
13    private int readcount;
14    private String ip;
15    private int ref;
16    private int re_step;
17    private int re_level;
18
19    public int getNum() {
20        return num;
21    }
22    public void setNum(int num) {
23        this.num = num;
24    }
25    public String getWriter() {
26        return writer;
27    }
28    public void setWriter(String writer) {
29        this.writer = writer;
30    }
31    public String getSubject() {
32        return subject;
33    }
34    public void setSubject(String subject) {
35        this.subject = subject;
36    }
37    public String getEmail() {
38        return email;
39    }
40    public void setEmail(String email) {
41        this.email = email;
42    }
43    public String getContent() {
44        return content;
45    }
46    public void setContent(String content) {
47        this.content = content;
48    }
49    public String getPassword() {
50        return passwd;
51    }
52    public void setPassword(String passwd) {
53        this.passwd = passwd;
54    }
55    public Timestamp getReg_date() {
56        return reg_date;
57    }
58    public void setReg_date(Timestamp reg_date) {
59        this.reg_date = reg_date;
60    }
61    public int getReadcount() {
62        return readcount;
63    }
64    public void setReadcount(int readcount) {
65        this.readcount = readcount;
66    }
67    public String getIp() {
68        return ip;
69    }
70    public void setIp(String ip) {
71        this.ip = ip;
72    }
73    public int getRef() {
74        return ref;
```

```
75     }
76     public void setRef(int ref) {
77         this.ref = ref;
78     }
79     public int getRe_step() {
80         return re_step;
81     }
82     public void setRe_step(int re_step) {
83         this.re_step = re_step;
84     }
85     public int getRe_level() {
86         return re_level;
87     }
88     public void setRe_level(int re_level) {
89         this.re_level = re_level;
90     }
91 }
```

```

1 package ch11;
2
3 import java.sql.Connection;
4 import java.sql.PreparedStatement;
5 import java.sql.ResultSet;
6 import java.sql.SQLException;
7 import java.util.ArrayList;
8 import java.util.List;
9
10 import javax.naming.Context;
11 import javax.naming.InitialContext;
12 import javax.sql.DataSource;
13
14 public class Ch11BoardDBBean {
15
16     private static Ch11BoardDBBean instance = new Ch11BoardDBBean();
17     //jsp페이지에서 DB연동빈인 BoardDBBean클래스의 메소드에 접근시 필요
18     public static Ch11BoardDBBean getInstance() {
19         return instance;
20     }
21
22     private Ch11BoardDBBean() {}
23
24     //커넥션풀로부터 Connection객체를 얻어냄
25     private Connection getConnection() throws Exception {
26         Context initCtx = new InitialContext();
27         Context envCtx = (Context) initCtx.lookup("java:comp/env");
28         DataSource ds = (DataSource)envCtx.lookup("jdbc/jsp");
29         return ds.getConnection();
30     }
31
32     //board태이블에 글을 추가(insert문)<=writePro.jsp페이지에서 사용
33     public void insertArticle(Ch11BoardDataBean article)
34         throws Exception {
35         Connection conn = null;
36         PreparedStatement pstmt = null;
37         PreparedStatement pstmt2 = null;
38         PreparedStatement pstmt3 = null;
39         ResultSet rs = null;
40
41         int num=article.getNum();
42         int ref=article.getRef();
43         int re_step=article.getRe_step();
44         int re_level=article.getRe_level();
45         int number=0;
46         String sql="";
47
48         try {
49             conn = getConnection();
50
51             pstmt = conn.prepareStatement("select max(num) from board");
52             rs = pstmt.executeQuery();
53
54             if (rs.next())
55                 number=rs.getInt(1)+1;
56             else
57                 number=1;
58
59             if (num!=0) {
60                 sql="update board set re_step=re_step+1 ";
61                 sql += "where ref= ? and re_step> ?";
62                 pstmt2 = conn.prepareStatement(sql);
63                 pstmt2.setInt(1, ref);
64                 pstmt2.setInt(2, re_step);
65                 pstmt2.executeUpdate();
66                 re_step=re_step+1;
67                 re_level=re_level+1;
68             }else{
69                 ref=number;
70                 re_step=0;
71                 re_level=0;
72             }
73             // 쿼리를 작성
74             sql = "insert into board(num, writer, email, subject, passwd, reg_date,";
```

```

75      sql+="ref,re_step,re_level,content,ip) values((SELECT NVL(MAX(NUM), 0) + 1 FROM
76      BOARD),?, ?, ?, ?, ?, ?, ?, ?, ?, ?)";
77
78      pstmt3 = conn.prepareStatement(sql);
79      pstmt3.setString(1, article.getWriter());
80      pstmt3.setString(2, article.getEmail());
81      pstmt3.setString(3, article.getSubject());
82      pstmt3.setString(4, article.getPasswd());
83      pstmt3.setTimestamp(5, article.getReg_date());
84      pstmt3.setInt(6, ref);
85      pstmt3.setInt(7, re_step);
86      pstmt3.setInt(8, re_level);
87      pstmt3.setString(9, article.getContent());
88      pstmt3.setString(10, article.getIp());
89
90      pstmt3.executeUpdate();
91  } catch(Exception ex) {
92     ex.printStackTrace();
93  } finally {
94    if (rs != null) try { rs.close(); } catch(SQLException ex) {}
95    if (pstmt != null) try { pstmt.close(); } catch(SQLException ex) {}
96    if (pstmt2 != null) try { pstmt2.close(); } catch(SQLException ex) {}
97    if (pstmt3 != null) try { pstmt3.close(); } catch(SQLException ex) {}
98    if (conn != null) try { conn.close(); } catch(SQLException ex) {}
99  }
100
101 //board테이블에 저장된 전체글의 수를 얻어냄(select문)<=list.jsp에서 사용
102 public int getArticleCount()
103     throws Exception {
104     Connection conn = null;
105     PreparedStatement pstmt = null;
106     ResultSet rs = null;
107
108     int x=0;
109
110    try {
111        conn = getConnection();
112
113        pstmt = conn.prepareStatement("select count(*) from board");
114        rs = pstmt.executeQuery();
115
116        if (rs.next()) {
117            x= rs.getInt(1);
118        }
119    } catch(Exception ex) {
120        ex.printStackTrace();
121    } finally {
122        if (rs != null) try { rs.close(); } catch(SQLException ex) {}
123        if (pstmt != null) try { pstmt.close(); } catch(SQLException ex) {}
124        if (conn != null) try { conn.close(); } catch(SQLException ex) {}
125    }
126    return x;
127  }
128
129 //글의 목록(복수개의 글)을 가져옴(select문) <=list.jsp에서 사용
130 public List<Ch11BoardDataBean> getArticles(int start, int end)
131     throws Exception {
132     Connection conn = null;
133     PreparedStatement pstmt = null;
134     ResultSet rs = null;
135     List<Ch11BoardDataBean> articleList=null;
136     try {
137         conn = getConnection();
138
139 //         pstmt = conn.prepareStatement(
140 //             "select * from board order by ref desc, re_step asc limit ?,? ");
141 //         pstmt.setInt(1, start-1);
142 //         pstmt.setInt(2, end);
143
144     /*      pstmt = conn.prepareStatement(
145             "SELECT * "
146             + "FROM ( SELECT ROWNUM RNUM "
147             + "       , O.* "
148             + "  FROM board "
149             + " WHERE RNUM > ? "
150             + "   AND RNUM <= ? "
151             + " ) "
152             + " WHERE RNUM = ? "
153             + " ORDER BY ref desc, re_step asc "
154             + " LIMIT ?,? "
155             + " ); "
156
157     */
```

```

148      + "      FROM ( SELECT *          "
149      + "          FROM BOARD          "
150      + "          ORDER BY REF DESC  "
151      + "          , RE_STEP ASC   "
152      + "          ) O           "
153      + "          "
154      + "WHERE RNUM BETWEEN ? AND ?    ");
155
156      pstmt.setInt(1, start);
157      pstmt.setInt(2, start+end-1);/*
158
159      pstmt = conn.prepareStatement(
160          "SELECT *          "
161          + "FROM ( SELECT ROWNUM RNUM          "
162          + "        , O.*          "
163          + "        FROM ( SELECT *          "
164          + "            FROM BOARD          "
165          + "            ORDER BY REF DESC  "
166          + "            , RE_STEP ASC   "
167          + "            ) O           "
168          + "        )          "
169          + "WHERE RNUM >= ?          "
170          + "AND ROWNUM <= ?          ");
171
172      pstmt.setInt(1, start);
173      pstmt.setInt(2, end);
174
175      rs = pstmt.executeQuery();
176
177      if (rs.next()) {
178          articleList = new ArrayList<Ch11BoardDataBean>(end);
179          do{
180              Ch11BoardDataBean article= new Ch11BoardDataBean();
181              article.setNum(rs.getInt("num"));
182              article.setWriter(rs.getString("writer"));
183              article.setEmail(rs.getString("email"));
184              article.setSubject(rs.getString("subject"));
185              article.setPasswd(rs.getString("passwd"));
186              article.setReg_date(rs.getTimestamp("reg_date"));
187              article.setReadcount(rs.getInt("readcount"));
188              article.setRef(rs.getInt("ref"));
189              article.setRe_step(rs.getInt("re_step"));
190              article.setRe_level(rs.getInt("re_level"));
191              article.setContent(rs.getString("content"));
192              article.setIp(rs.getString("ip"));
193
194              articleList.add(article);
195          }while(rs.next());
196      }
197      } catch(Exception ex) {
198          ex.printStackTrace();
199      } finally {
200          if (rs != null) try { rs.close(); } catch(SQLException ex) {}
201          if (pstmt != null) try { pstmt.close(); } catch(SQLException ex) {}
202          if (conn != null) try { conn.close(); } catch(SQLException ex) {}
203      }
204      return articleList;
205  }
206
207 //글의 내용을 보기(1개의 글)(select문)<=content.jsp페이지에서 사용
208 public Ch11BoardDataBean getArticle(int num)
209     throws Exception {
210     Connection conn = null;
211     PreparedStatement pstmt = null;
212     PreparedStatement pstmt2 = null;
213     ResultSet rs = null;
214     Ch11BoardDataBean article=null;
215     try {
216         conn = getConnection();
217
218         pstmt = conn.prepareStatement(
219             "update board set readcount=readcount+1 where num = ?");
220         pstmt.setInt(1, num);
221         pstmt.executeUpdate();

```

```

222
223     pstmtt2 = conn.prepareStatement(
224         "select * from board where num = ?");
225     pstmtt2.setInt(1, num);
226     rs = pstmtt2.executeQuery();
227
228     if (rs.next()) {
229         article = new Ch11BoardDataBean();
230         article.setNum(rs.getInt("num"));
231         article.setWriter(rs.getString("writer"));
232         article.setEmail(rs.getString("email"));
233         article.setSubject(rs.getString("subject"));
234         article.setPasswd(rs.getString("passwd"));
235         article.setReg_date(rs.getTimestamp("reg_date"));
236         article.setReadcount(rs.getInt("readcount"));
237         article.setRef(rs.getInt("ref"));
238         article.setRe_step(rs.getInt("re_step"));
239         article.setRe_level(rs.getInt("re_level"));
240         article.setContent(rs.getString("content"));
241         article.setIp(rs.getString("ip"));
242     }
243     } catch(Exception ex) {
244         ex.printStackTrace();
245     } finally {
246         if (rs != null) try { rs.close(); } catch(SQLException ex) {}
247         if (stmt != null) try { stmt.close(); } catch(SQLException ex) {}
248         if (pstmt2 != null) try { pstmt2.close(); } catch(SQLException ex) {}
249         if (conn != null) try { conn.close(); } catch(SQLException ex) {}
250     }
251     return article;
252 }
253
254 //글 수정폼에서 사용할 글의 내용(1개의 글)(select문)<=updateForm.jsp에서 사용
255 public Ch11BoardDataBean updateGetArticle(int num)
256     throws Exception {
257     Connection conn = null;
258     PreparedStatement stmt = null;
259     ResultSet rs = null;
260     Ch11BoardDataBean article=null;
261     try {
262         conn = getConnection();
263
264         stmt = conn.prepareStatement(
265             "select * from board where num = ?");
266         stmt.setInt(1, num);
267         rs = stmt.executeQuery();
268
269         if (rs.next()) {
270             article = new Ch11BoardDataBean();
271             article.setNum(rs.getInt("num"));
272             article.setWriter(rs.getString("writer"));
273             article.setEmail(rs.getString("email"));
274             article.setSubject(rs.getString("subject"));
275             article.setPasswd(rs.getString("passwd"));
276             article.setReg_date(rs.getTimestamp("reg_date"));
277             article.setReadcount(rs.getInt("readcount"));
278             article.setRef(rs.getInt("ref"));
279             article.setRe_step(rs.getInt("re_step"));
280             article.setRe_level(rs.getInt("re_level"));
281             article.setContent(rs.getString("content"));
282             article.setIp(rs.getString("ip"));
283         }
284     } catch(Exception ex) {
285         ex.printStackTrace();
286     } finally {
287         if (rs != null) try { rs.close(); } catch(SQLException ex) {}
288         if (stmt != null) try { stmt.close(); } catch(SQLException ex) {}
289         if (conn != null) try { conn.close(); } catch(SQLException ex) {}
290     }
291     return article;
292 }
293
294 //글 수정처리에서 사용(update문)<=updatePro.jsp에서 사용
295 public int updateArticle(Ch11BoardDataBean article)

```

```

296         throws Exception {
297     Connection conn = null;
298     PreparedStatement pstmt = null;
299     PreparedStatement pstmt2 = null;
300     ResultSet rs= null;
301
302     String dbpasswd="";
303     String sql="";
304     int x=-1;
305     try {
306         conn = getConnection();
307
308         pstmt = conn.prepareStatement(
309             "select passwd from board where num = ?");
310         pstmt.setInt(1, article.getNum());
311         rs = pstmt.executeQuery();
312
313         if(rs.next()){
314             dbpasswd= rs.getString("passwd");
315             if(dbpasswd.equals(article.getPasswd())){
316                 sql="update board set writer=?,email=?,subject=?,passwd=?";
317                 sql+=",content=? where num=?";
318                 pstmt2 = conn.prepareStatement(sql);
319
320                 pstmt2.setString(1, article.getWriter());
321                 pstmt2.setString(2, article.getEmail());
322                 pstmt2.setString(3, article.getSubject());
323                 pstmt2.setString(4, article.getPasswd());
324                 pstmt2.setString(5, article.getContent());
325                 pstmt2.setInt(6, article.getNum());
326                 pstmt2.executeUpdate();
327
328             }else{
329                 x= 0;
330             }
331         }
332     } catch(Exception ex) {
333         ex.printStackTrace();
334     } finally {
335         if (rs != null) try { rs.close(); } catch(SQLException ex) {}
336         if (pstmt != null) try { pstmt.close(); } catch(SQLException ex) {}
337         if (pstmt2 != null) try { pstmt2.close(); } catch(SQLException ex) {}
338         if (conn != null) try { conn.close(); } catch(SQLException ex) {}
339     }
340     return x;
341 }
342
343 //글삭제처리시 사용(delete문)<=>deletePro.jsp페이지에서 사용
344 public int deleteArticle(int num, String passwd)
345     throws Exception {
346     Connection conn = null;
347     PreparedStatement pstmt = null;
348     PreparedStatement pstmt2 = null;
349     ResultSet rs= null;
350     String dbpasswd="";
351     int x=-1;
352     try {
353         conn = getConnection();
354
355         pstmt = conn.prepareStatement(
356             "select passwd from board where num = ?");
357         pstmt.setInt(1, num);
358         rs = pstmt.executeQuery();
359
360         if(rs.next()){
361             dbpasswd= rs.getString("passwd");
362             if(dbpasswd.equals(passwd)){
363                 pstmt2 = conn.prepareStatement(
364                     "delete from board where num=?");
365                     pstmt2.setInt(1, num);
366                     pstmt2.executeUpdate();
367                 x= 1; //글삭제 성공
368             }else
369                 x= 0; //비밀번호 틀림

```

```
370     }
371     } catch(Exception ex) {
372         ex.printStackTrace();
373     } finally {
374         if (rs      != null) try { rs.close();      } catch(SQLException ex) {}
375         if (stmt    != null) try { stmt.close();    } catch(SQLException ex) {}
376         if (stmt2   != null) try { stmt2.close();   } catch(SQLException ex) {}
377         if (conn    != null) try { conn.close();    } catch(SQLException ex) {}
378     }
379     return x;
380 }
381
382 }
```

```
1 <%
2   String bodyback_c="#FFF0B5";
3 // String bodyback_c="#FFFFFF";
4   String value_c="#FFE271";
5 %>
```

```

1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <%@ page import = "ch11.Ch11BoardDBBean" %>
4 <%@ page import = "ch11.Ch11BoardDataBean" %>
5 <%@ page import = "java.text.SimpleDateFormat" %>
6 <%@ include file="ch11color.jspf"%>
7
8 <html>
9 <head>
10 <title>개시판</title>
11 <link href="ch11style.css" rel="stylesheet" type="text/css">
12 </head>
13 <body bgcolor="<%={bodyback_c}%>">
14 <%
15     int num = Integer.parseInt(request.getParameter("num"));
16     String pageNum = request.getParameter("pageNum");
17
18     SimpleDateFormat sdf =
19         new SimpleDateFormat("yyyy-MM-dd HH:mm");
20
21     try{
22         Ch11BoardDBBean dbPro = Ch11BoardDBBean.getInstance();
23         Ch11BoardDataBean article = dbPro.getArticle(num);
24
25         int ref=article.getRef();
26         int re_step=article.getRe_step();
27         int re_level=article.getRe_level();
28     }>
29
30 <p>글 내용 보기</p>
31
32 <form>
33 <table>
34     <tr height="30">
35         <td align="center" width="125" bgcolor="<%={value_c}%>">>글 번호</td>
36         <td align="center" width="125" align="center">
37             <%=article.getNum()%></td>
38         <td align="center" width="125" bgcolor="<%={value_c}%>">>조회수</td>
39         <td align="center" width="125" align="center">
40             <%=article.getReadcount()%></td>
41     </tr>
42     <tr height="30">
43         <td align="center" width="125" bgcolor="<%={value_c}%>">>작성자</td>
44         <td align="center" width="125" align="center">
45             <%=article.getWriter()%></td>
46         <td align="center" width="125" bgcolor="<%={value_c}%>">>작성일</td>
47         <td align="center" width="125" align="center">
48             <%= sdf.format(article.getReg_date())%></td>
49     </tr>
50     <tr height="30">
51         <td align="center" width="125" bgcolor="<%={value_c}%>">>글 제목</td>
52         <td align="center" width="375" align="center" colspan="3">
53             <%=article.getSubject()%></td>
54     </tr>
55     <tr>
56         <td align="center" width="125" bgcolor="<%={value_c}%>">>글 내용</td>
57         <td align="left" width="375" colspan="3">
58             <pre><%=article.getContent()%></pre></td>
59     </tr>
60     <tr height="30">
61         <td colspan="4" bgcolor="<%={value_c}%>" align="right" >
62             <input type="button" value="글 수정"
63                 onclick="document.location.href='ch11updateForm.jsp?num=<%=article.getNum()%>&pageNum=<%=pageNum%>'">
64             &nbsp;&nbsp;&nbsp;&nbsp;
65             <input type="button" value="글 삭제"
66                 onclick="document.location.href='ch11deleteForm.jsp?num=<%=article.getNum()%>&pageNum=<%=pageNum%>'">
67             &nbsp;&nbsp;&nbsp;&nbsp;
68             <input type="button" value="답글쓰기"
69                 onclick="document.location.href='ch11writeForm.jsp?num=<%=num%>&ref=<%=ref%>&re_step="
```

```
70     step%>&re_level=<%=re_level%>'">
71     &nbsp;&nbsp;&nbsp;&nbsp;
72     <input type="button" value="글목록"
73     onclick="document.location.href='ch11list.jsp?pageNum=<%=pageNum%>'">
74   </td>
75 </tr>
76 <%
77 }catch(Exception e){ }
78 %>
79 </form>
80 </body>
81 </html>
```

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3
4 <%@ include file="ch11color.jspf"%>
5
6 <%
7     int num = Integer.parseInt(request.getParameter("num"));
8     String pageNum = request.getParameter("pageNum");
9
10    %>
11    <html>
12    <head>
13        <title>게시판</title>
14        <link href="ch11style.css" rel="stylesheet" type="text/css">
15        <script type="text/javascript">
16            <!-- -->
17            function deleteSave(){
18                if(!document.delForm.passwd.value){
19                    alert("비밀번호를 입력하십시오.");
20                    document.delForm.passwd.focus();
21                    return false;
22                }
23            }
24
25        </script>
26    </head>
27    <body bgcolor="<%="bodyback_c%>">
28        <p>글삭제</p>
29        <br>
30        <form method="POST" name="delForm"
31            action="ch11deletePro.jsp?pageNum=<%=pageNum%>"
32            onsubmit="return deleteSave()">
33            <table>
34                <tr height="30">
35                    <td align=center bgcolor="<%="value_c%>">
36                        <b>비밀번호를 입력해 주세요.</b></td>
37                </tr>
38                <tr height="30">
39                    <td align=center>비밀번호 :
40                        <input type="password" name="passwd" size="8" maxlength="12">
41                        <input type="hidden" name="num" value="<%="num%>"></td>
42                </tr>
43                <tr height="30">
44                    <td align=center bgcolor="<%="value_c%>">
45                        <input type="submit" value="글삭제" >
46                        <input type="button" value="글목록"
47                            onclick="document.location.href='ch11list.jsp?pageNum=<%=pageNum%>'">
48                </td>
49            </tr>
50        </table>
51    </form>
52    </body>
53 </html>
```

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <%@ page import = "ch11.Ch11BoardDBBean" %>
4 <%@ page import = "java.sql.Timestamp" %>
5
6 <% request.setCharacterEncoding("utf-8");%>
7
8 <%
9     int num = Integer.parseInt(request.getParameter("num"));
10    String pageNum = request.getParameter("pageNum");
11    String passwd = request.getParameter("passwd");
12
13    Ch11BoardDBBean dbPro = Ch11BoardDBBean.getInstance();
14    int check = dbPro.deleteArticle(num, passwd);
15
16    if(check==1){
17        %>
18        <meta http-equiv="Refresh" content="0;url=ch11list.jsp?pageNum=<%=pageNum%>">
19    <%}else{%
20        <script type="text/javascript">
21            <!-- -->
22            alert("비밀번호가 맞지 않습니다");
23            history.go(-1);
24
25        </script>
26    <%} %>
```

```

1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding= "UTF-8"%>
3 <%@ page import = "ch11.Ch11BoardDBBean" %>
4 <%@ page import = "ch11.Ch11BoardDataBean" %>
5 <%@ page import = "java.util.List" %>
6 <%@ page import = "java.text.SimpleDateFormat" %>
7 <%@ include file= "ch11color.jspf"%>
8
9 <%!
10    int pageSize = 10;
11    SimpleDateFormat sdf =
12        new SimpleDateFormat("yyyy-MM-dd HH:mm");
13 %>
14
15 <%
16    String pageNum = request.getParameter("pageNum");
17
18    if (pageNum == null) {
19        pageNum = "1";
20    }
21
22    int currentPage = Integer.parseInt(pageNum);
23    int startRow = (currentPage - 1) * pageSize + 1;
24 //LTS int endRow = currentPage * pageSize;
25    int count = 0;
26 //LTS int number = 0;
27    List<Ch11BoardDataBean> articleList = null;
28
29    Ch11BoardDBBean dbPro = Ch11BoardDBBean.getInstance();
30    count = dbPro.getArticleCount();
31
32    if (count > 0) {
33        articleList = dbPro.getArticles(startRow, pageSize);
34    }
35
36 //LTS number = count-(currentPage-1)*pageSize;
37 %>
38 <html>
39 <head>
40 <link href="ch11style.css" rel="stylesheet" type="text/css">
41 <title>게시판</title>
42 </head>
43 <body bgcolor="<%=bodyback_c%>">
44 <p>글 목록(전체 글:<%=count%>)</p>
45
46 <table>
47   <tr>
48     <td align="right" bgcolor="<%=value_c%>">
49       <a href="ch11writeForm.jsp">글쓰기</a>
50     </td>
51   </tr>
52 </table>
53
54 <% if (count == 0) { %>
55
56 <table>
57   <tr>
58     <td align="center">
59       게시판에 저장된 글이 없습니다.
60     </td>
61   </table>
62
63 <% } else { %>
64 <table>
65   <tr height="30" bgcolor="<%=value_c%>">
66     <td align="center" width="50" >번 호</td>
67     <td align="center" width="250" >제 목</td>
68     <td align="center" width="100" >작성자</td>
69     <td align="center" width="150" >작성일</td>
70     <td align="center" width="50" >조회</td>
71     <td align="center" width="100" >IP</td>
72   </tr>
73 <%
74   for (int i = 0 ; i < articleList.size() ; i++) {

```

```

75      Ch11BoardDataBean article = articleList.get(i);
76  %>
77  <tr height="30">
78    <td width="50" >
79      <%-- LTS
80      <%=number%>
81      --%>
82      <%=article.getNum()%>
83    </td>
84    <td width="250" align="left">
85  <%
86    int wid=0;
87    if(article.getRe_level()>0){
88      wid=5*(article.getRe_level());
89  %>
90    " height="16">
91    
92  <% }%>
93
94    <a href="ch11content.jsp?num=<%=article.getNum()%>&pageNum=<%=currentPage%>">
95      <%=article.getSubject()%></a>
96  <% if(article.getReadcount()>=20){%>
97      <%}%> </td>
98  <td width="100" align="left">
99    <a href="mailto:<%=article.getEmail()%>">
100      <%=article.getWriter()%></a></td>
101  <td width="150"><%= sdf.format(article.getReg_date())%></td>
102  <td width="50"><%=article.getReadcount()%></td>
103  <td width="100" ><%=article.getIp()%></td>
104 </tr>
105 <%}%>
106 </table>
107 <%}%>
108
109 <%
110   if (count > 0) {
111     int pageCount = count / pageSize + (count % pageSize == 0 ? 0 : 1);
112     int startPage = 1;
113
114     if(currentPage % 10 != 0)
115       startPage = (int)(currentPage/10)*10 + 1;
116     else
117       startPage = ((int)(currentPage/10)-1)*10 + 1;
118
119     int pageBlock = 10;
120     int endPage = startPage + pageBlock - 1;
121     if (endPage > pageCount) endPage = pageCount;
122
123     if (startPage > 10) { %>
124       <a href="ch11list.jsp?pageNum=<%= startPage - 10 %>">[이전]</a>
125     <% }
126
127     for (int i = startPage ; i <= endPage ; i++) { %>
128       <a href="ch11list.jsp?pageNum=<%= i %>">[<%= i %>]</a>
129     <% }
130
131     if (endPage < pageCount) { %>
132       <a href="ch11list.jsp?pageNum=<%= startPage + 10 %>">[다음]</a>
133     <% }
134   }
135 <% }
136 <%>
137
138 </body>
139 </html>

```

```
1 function writeSave(){
2     var writeform = document.writeform;
3
4     if(!writeform.writer.value){
5         alert("작성자를 입력하십시오.");
6         writeform.writer.focus();
7         return false;
8     }
9
10    if(!writeform.subject.value){
11        alert("제목을 입력하십시오.");
12        writeform.subject.focus();
13        return false;
14    }
15
16    if(!writeform.content.value){
17        alert("내용을 입력하십시오.");
18        writeform.content.focus();
19        return false;
20    }
21
22    if(!writeform.passwd.value){
23        alert("비밀번호를 입력하십시오.");
24        writeform.passwd.focus();
25        return false;
26    }
27};
```

```
1 @CHARSET "UTF-8";
2
3 body {
4     font-size: 9pt;
5     text-align: center;
6 }
7
8 table {
9     font-size: 9pt;
10    text-align: center;
11    border: 1pt solid black;
12 }
13
14 select {
15     font-size: 9pt;
16 }
17
18 form {
19     font-size: 9pt;
20 }
21
22 p{
23     font-weight: 700;
24 }
```

```

1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <%@ page import = "ch11.Ch11BoardDBBean" %>
4 <%@ page import = "ch11.Ch11BoardDataBean" %>
5 <%@ include file="ch11color.jspf"%>
6 <html>
7 <head>
8 <title>개시판</title>
9 <link href="ch11style.css" rel="stylesheet" type="text/css">
10 <script type="text/javascript" src="ch11script.js"></script>
11 </head>
12 <body bgcolor="<%={bodyback_c}%">
13 <%
14     int num = Integer.parseInt(request.getParameter("num"));
15     String pageNum = request.getParameter("pageNum");
16     try{
17         Ch11BoardDBBean dbPro = Ch11BoardDBBean.getInstance();
18         Ch11BoardDataBean article = dbPro.updateGetArticle(num);
19
20     %>
21
22 <p>글수정</p>
23 <br>
24 <form method="post" name="writeform"
25 action="ch11updatePro.jsp?pageNum=<%=pageNum%>" onsubmit="return writeSave()">
26 <table>
27     <tr>
28         <td width="70" bgcolor="<%={value_c}%>" align="center">▣ 룸</td>
29         <td align="left" width="330">
30             <input type="text" size="10" maxlength="10" name="writer"
31             value="<%={article.getWriter()%}" style="ime-mode:active;">
32             <input type="hidden" name="num" value="<%={article.getNum()%}"></td>
33     </tr>
34     <tr>
35         <td width="70" bgcolor="<%={value_c}%>" align="center" >제 목</td>
36         <td align="left" width="330">
37             <input type="text" size="40" maxlength="50" name="subject"
38             value="<%={article.getSubject()%}" style="ime-mode:active;"></td>
39     </tr>
40     <tr>
41         <td width="70" bgcolor="<%={value_c}%>" align="center" >Email</td>
42         <td align="left" width="330">
43             <input type="text" size="40" maxlength="30" name="email"
44             value="<%={article.getEmail()%}" style="ime-mode:inactive;"></td>
45     </tr>
46     <tr>
47         <td width="70" bgcolor="<%={value_c}%>" align="center" >내 용</td>
48         <td align="left" width="330">
49             <textarea name="content" rows="13" cols="40"
50                 style="ime-mode:active;"><%={article.getContent()%}></textarea></td>
51     </tr>
52     <tr>
53         <td width="70" bgcolor="<%={value_c}%>" align="center" >비밀번호</td>
54         <td align="left" width="330" >
55             <input type="password" size="8" maxlength="12"
56             name="passwd" style="ime-mode:inactive;">
57
58         </td>
59     </tr>
60     <tr>
61         <td colspan=2 bgcolor="<%={value_c}%>" align="center">
62             <input type="submit" value="글수정" >
63             <input type="reset" value="다시작성" >
64             <input type="button" value="목록보기" 
65                 onclick="document.location.href='ch11list.jsp?pageNum=<%=pageNum%>'">
66         </td>
67     </tr>
68     </table>
69 </form>
70 <%
71 }catch(Exception e){ }%>
72
73 </body>
74 </html>

```

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <%@ page import = "ch11.Ch11BoardDBBean" %>
4 <%@ page import = "java.sql.Timestamp" %>
5
6 <% request.setCharacterEncoding("utf-8");%>
7
8 <jsp:useBean id="article" scope="page" class="ch11.Ch11BoardDataBean">
9     <jsp:setProperty name="article" property="*"/>
10 </jsp:useBean>
11 <%
12
13     String pageNum = request.getParameter("pageNum");
14
15     Ch11BoardDBBean dbPro = Ch11BoardDBBean.getInstance();
16     int check = dbPro.updateArticle(article);
17
18     if(check==1){
19 %>
20         <meta http-equiv="Refresh" content="0;url=ch11list.jsp?pageNum=<%=pageNum%>" >
21 <% }else{%
22         <script type="text/javascript">
23             alert("비밀번호가 맞지 않습니다");
24             history.go(-1);
25         </script>
26     <%
27     }
28 %>
```

```

1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <%@ include file="ch11color.jspf"%>
4 <html>
5 <head>
6 <title>게시판</title>
7 <link href="ch11style.css" rel="stylesheet" type="text/css">
8 <script type="text/javascript" src="ch11script.js"></script>
9 </head>
10
11 <body bgcolor="<%={bodyback_c}%">
12 <%
13     int num = 0, ref = 1, re_step = 0, re_level = 0;
14     String strV = "";
15     try{
16         if(request.getParameter("num")!=null){
17             num=Integer.parseInt(request.getParameter("num"));
18             ref=Integer.parseInt(request.getParameter("ref"));
19             re_step=Integer.parseInt(request.getParameter("re_step"));
20             re_level=Integer.parseInt(request.getParameter("re_level"));
21         }
22     }%
23 <p>글쓰기</p>
24 <form method="post" name="writeform"
25     action="ch11writePro.jsp" onsubmit="return writeSave() "gt;
26 <input type="hidden" name="num" value="<%={num}%>"gt;
27 <input type="hidden" name="ref" value="<%={ref}%>"gt;
28 <input type="hidden" name="re_step" value="<%={re_step}%>"gt;
29 <input type="hidden" name="re_level" value="<%={re_level}%>"gt;
30
31 <table>
32     <tr>
33         <td align="right" colspan="2" bgcolor="<%={value_c}%>"gt;
34             <a href="ch11list.jsp"> 글 목록</a>
35         </td>
36     </tr>
37     <tr>
38         <td width="70" bgcolor="<%={value_c}%>" align="center">○ 룸</td>
39         <td width="330" align="left">
40             <input type="text" size="10" maxlength="10"
41                 name="writer" style="ime-mode:active;"></td><!--active:한글-->
42     </tr>
43     <tr>
44         <td width="70" bgcolor="<%={value_c}%>" align="center">제 목</td>
45         <td width="330" align="left">
46             <%
47                 if(request.getParameter("num")==null)
48                     strV = "";
49                 else
50                     strV = "[답변] ";
51             %>
52             <input type="text" size="40" maxlength="50" name="subject"
53                 value="<%={strV}%>" style="ime-mode:active;"></td>
54     </tr>
55     <tr>
56         <td width="70" bgcolor="<%={value_c}%>" align="center">Email</td>
57         <td width="330" align="left">
58             <input type="text" size="40" maxlength="30" name="email"
59                 style="ime-mode:inactive;"></td><!--inactive:영문-->
60     </tr>
61     <tr>
62         <td width="70" bgcolor="<%={value_c}%>" align="center">내 용</td>
63         <td width="330" align="left">
64             <textarea name="content" rows="13" cols="40"
65                 style="ime-mode:active;"></textarea> </td>
66     </tr>
67     <tr>
68         <td width="70" bgcolor="<%={value_c}%>" align="center">비밀번호</td>
69         <td width="330" align="left">
70             <input type="password" size="8" maxlength="12"
71                 name="passwd" style="ime-mode:inactive;">
72         </td>
73     </tr>
74     <tr>
```

```
75      <td colspan=2 bgcolor="<%="value_c%">" align="center">
76          <input type="submit" value="글쓰기" >
77          <input type="reset" value="다시작성">
78          <input type="button" value="목록보기" onClick="window.location='ch11list.jsp'">
79      </td>
80  </tr>
81 </table>
82 <%
83     }catch(Exception e) {}
84 %>
85 </form>
86 </body>
87 </html>
```

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <%@ page import = "ch11.Ch11BoardDBBean" %>
4 <%@ page import = "java.sql.Timestamp" %>
5
6 <% request.setCharacterEncoding("utf-8");%>
7
8 <jsp:useBean id="article" class="ch11.Ch11BoardDataBean" scope="page">
9     <jsp:setProperty name="article" property="*"/>
10 </jsp:useBean>
11
12 <%
13     article.setReg_date(new Timestamp(System.currentTimeMillis()) );
14     article.setIp(request.getRemoteAddr());
15
16     Ch11BoardDBBean dbPro = Ch11BoardDBBean.getInstance();
17     dbPro.insertArticle(article);
18
19     response.sendRedirect("ch11list.jsp");
20 %>
```

```
1 package ch12;
2
3 public class Ch1201Product {
4
5     // 상품 목록을 보관할 배열
6     private String[] productList = {"item1", "item2", "item3", "item4", "item5"};
7
8     // 웹 테스트를 위한 변수들
9     private int num1 = 10;
10    private int num2 = 20;
11
12    public int getNum1() {
13        return num1;
14    }
15
16    public int getNum2() {
17        return num2;
18    }
19
20    public String[] getProductList() {
21        return productList;
22    }
23 }
```

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <!DOCTYPE HTML>
4 <html>
5 <head>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7 <title>ch10:EL 예제</title>
8 </head>
9 <body>
10 <div align="center">
11 <H2>EL 예제-상품목록</H2>
12 <HR>
13 <form name=form1 method=POST action=ch1201ProductSel.jsp>
14     <jsp:useBean id="product" class="ch12.Ch1201Product" scope="session"/>
15     <select name="sel">
16         <%
17             for(String item : product.getProductList()) {
18                 out.println("<option>" + item + "</option>");
19             }
20         <%
21     </select>
22     <input type="submit" value="선택"/>
23 </form>
24 </div>
25 </body>
26 </html>
27
28
29
30
```

```
1 <%@ page language="java" contentType="text/html; charset=UTF-8"
2     pageEncoding="UTF-8"%>
3 <!DOCTYPE HTML>
4 <html>
5 <head>
6 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
7 <title>EL 예제</title>
8 </head>
9 <body>
10 <div align="center">
11 <H2>EL 예제-상품선택</H2>
12 <HR>
13 1. 선택한 상품은 : ${param.sel} <BR>
14 2. num1 + num2 = ${product.num1+product.num2} <BR>
15 </div>
16 </body>
17 </html>
```

```
1 <%@page contentType="text/html; charset=UTF-8"%>
2 <%
3     int sum = 0;
4     for (int cnt = 1; cnt <= 1000; cnt++)
5         sum += cnt;
6     //pageContext.setAttribute("RESULT", new Integer(sum));
7     pageContext.setAttribute("RESULT", sum);
8 %>
9 <HTML>
10    <HEAD><TITLE>1부터 1000까지의 합</TITLE></HEAD>
11    <BODY>
12        1부터 1000까지 더한 결과는? ${RESULT}
13    </BODY>
14 </HTML>
```

```
1 package ch12;
2
3 public class Ch1203ProductInfo {
4     private String name;
5     private int value;
6     public Ch1203ProductInfo() {
7     }
8     public void setName(String name) {
9         this.name = name;
10    }
11    public String getName() {
12        return name;
13    }
14    public void setPrice(int price) {
15        value = price;
16    }
17    public int getPrice() {
18        return value;
19    }
20 }
```

```
1 <%@page contentType="text/html; charset=utf-8"%>
2 <%@page import="ch12.Ch1203ProductInfo" %>
3 <%
4     Ch1203ProductInfo product = new Ch1203ProductInfo();
5     product.setName("초코케이크 3호");
6     product.setPrice(20000);
7     request.setAttribute("PRODUCT", product);
8     RequestDispatcher dispatcher =
9         request.getRequestDispatcher("ch1203ProductInfoView.jsp");
10    dispatcher.forward(request, response);
11 %>
```

```
1 <%@page contentType="text/html; charset=utf-8"%>
2 <HTML>
3   <HEAD><TITLE>상품 정보</TITLE></HEAD>
4   <BODY>
5     <H3>상품 정보</H3>
6     상품명: ${PRODUCT.name} <BR>
7     가격: ${PRODUCT.price}원 <BR>
8   </BODY>
9 </HTML>
```

```
1 <%@page contentType="text/html; charset=utf-8"%>
2 <%@page import="java.util.*" %>
3 <%
4     HashMap<String, String> map = new HashMap<String, String>();
5     map.put("Edgar", "보스턴");
6     map.put("Thomas", "오하이오");
7     map.put("John", "워싱턴");
8     request.setAttribute("ADDRESS", map);
9     RequestDispatcher dispatcher =
10    request.getRequestDispatcher("ch1204AddressView.jsp?NAME=Thomas");
11    dispatcher.forward(request, response);
11 %>
```

```
1 <%@page contentType="text/html; charset=utf-8"%>
2 <HTML>
3     <HEAD><TITLE>주소록</TITLE></HEAD>
4     <BODY>
5         ${param.NAME} 의 주소는? ${ADDRESS[param.NAME]} <br>
6         ${param.NAME} 의 주소는? ${ADDRESS.Thomas} <br>
7         ${param.NAME} 의 주소는? ${ADDRESS["Thomas"]} <br>
8     </BODY>
9 </HTML>
```

```
1 <%@page contentType="text/html; charset=UTF-8"%>
2 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <HTML>
4     <HEAD><TITLE>HTML 문법 설명</TITLE></HEAD>
5     <BODY>
6         <H3>FONT 태그에 대하여</H3>
7         <c:out value="
```

```
1 <%@page contentType="text/html; charset=UTF-8"%>
2 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <HTML>
4     <HEAD><TITLE>간단한 인사</TITLE></HEAD>
5     <BODY>
6         안녕하세요, <c:out value="${param.ID}" default="guest" />님
7     </BODY>
8 </HTML>
9 <!-- http://localhost:8085/Myjsp/ch13/ch1302Hello.jsp -->
10 <!-- http://localhost:8085/Myjsp/ch13/ch1302Hello.jsp?ID=lts -->
```

```
1 <%@page contentType="text/html; charset=UTF-8"%>
2 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <HTML>
4   <HEAD><TITLE>최대값 구하기</TITLE></HEAD>
5   <BODY>
6     최대값:
7     <c:if test="${param.NUM1 - param.NUM2 >= 0}">
8       ${param.NUM1}
9     </c:if>
10    <c:if test="${param.NUM1 - param.NUM2 < 0}">
11      ${param.NUM2}
12    </c:if>
13  </BODY>
14 </HTML>
15 <!-- http://localhost:8085/Myjsp/ch13/ch1303Maximum.jsp?NUM1=87&NUM2=57 -->
```

```
1 <%@page contentType="text/html; charset=UTF-8"%>
2 <%
3     String arr[] = { "불고기 백반", "오므라이스", "콩국수" };
4     request.setAttribute("MENU", arr);
5 %>
6 <jsp:forward page="ch1304LunchMenuView.jsp" />
7 <!-- http://localhost:8085/Myjsp/ch13/ch1304LunchMenu.jsp -->
```

```
1 <%@page contentType="text/html; charset=UTF-8"%>
2 <%@taglib prefix="c" uri="http://java.sun.com/jsp/jstl/core" %>
3 <HTML>
4     <HEAD><TITLE>구내 식당</TITLE></HEAD>
5     <BODY>
6         <H3>오늘의 점심 메뉴입니다.</H3>
7         <UL>
8             <c:forEach var="dish" items="${MENU}">
9                 <LI>${dish}</LI>
10            </c:forEach>
11        </UL>
12    </BODY>
13 </HTML>
```