서버 프로그램 구현

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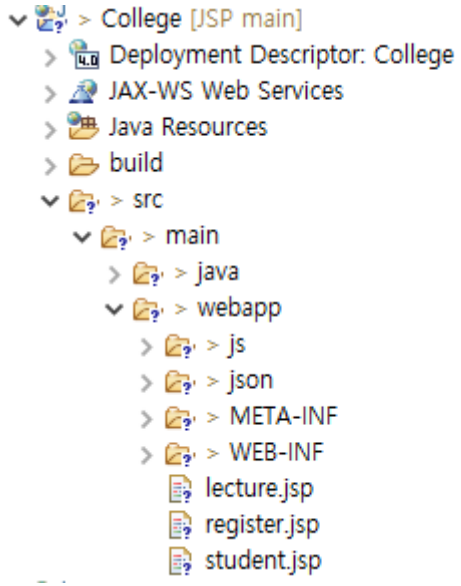
2022-11-08 정기 수행평가

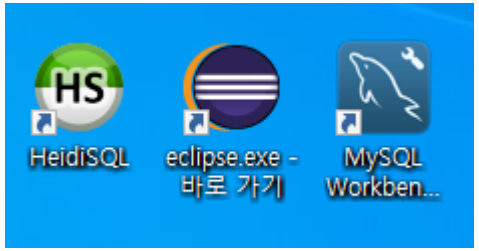
목차

Q 1 – 프로젝트 생성 및 구성

- 프로젝트 구조

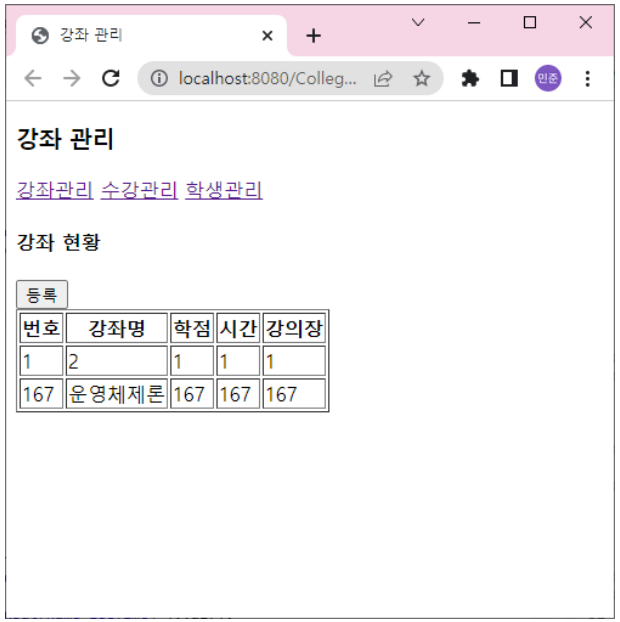


- 개발도구

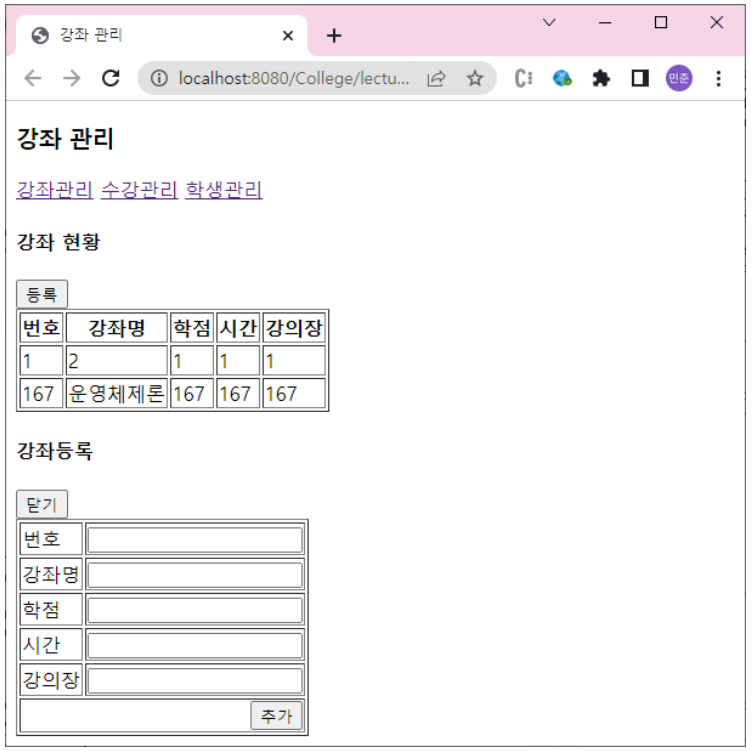


Q 2 – Lecture 화면 구현

⊙ Lecture 목록

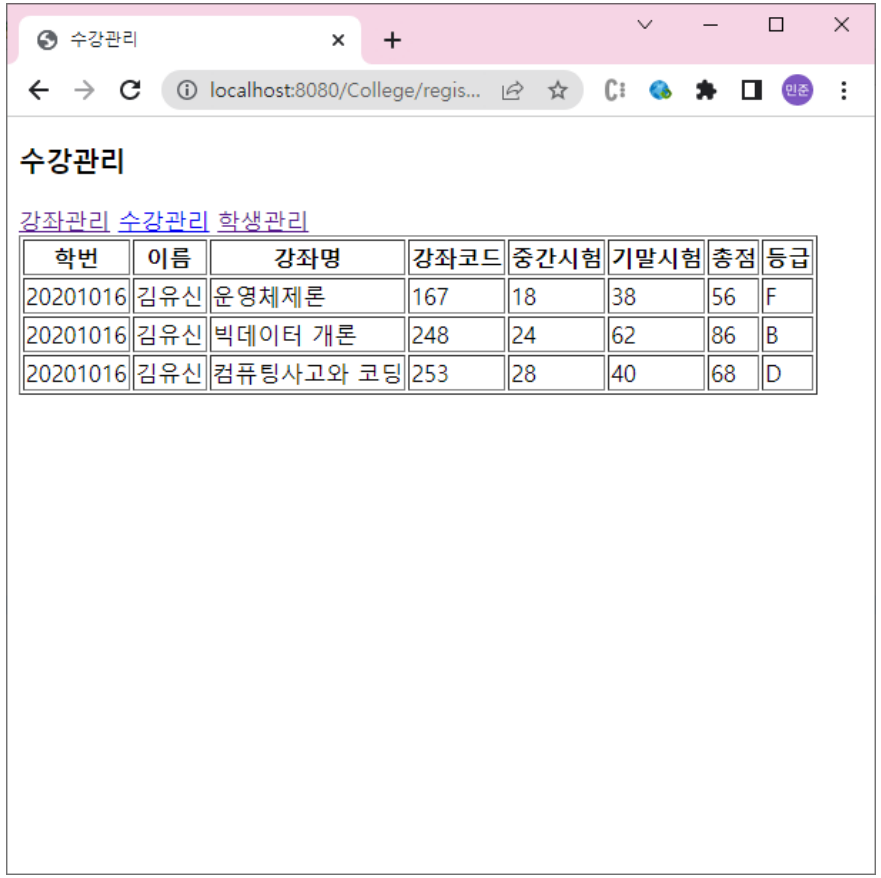


⊙ Lecture 등록



Q 2 – register 화면 구현

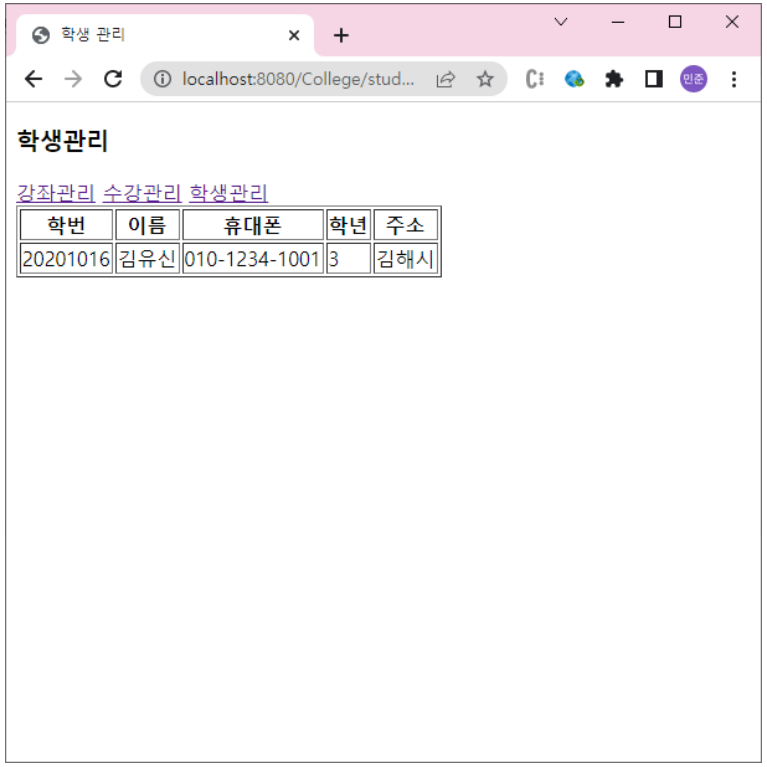
- register 목록
- register 등록



학번	이름	강좌명	강좌코드	중간시험	기말시험	총점	등급
20201016	김유신	운영체제론	167	18	38	56	F
20201016	김유신	빅데이터 개론	248	24	62	86	B
20201016	김유신	컴퓨팅사고와 코딩	253	28	40	68	D

Q 2 – student 화면 구현

- student 목록
- student 등록



Q 3 - Lecture 기능 구현

- Lecture 코드

```jsp
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Statement"%>
<%@page import="java.sql.Connection"%>
<%@page import="config.DBCP"%>
<%@page import="java.util.ArrayList"%>
<%@page import="baen.lectureBean"%>
<%@page import="java.util.List"%>
<%@ page contentType="text/html;charset=UTF-8" pageEncoding="UTF-8"%>
<%

    List<lectureBean> lectures = new ArrayList<>();

    try{
        Connection conn = DBCP.getConnection();
        Statement stmt = conn.createStatement();
        ResultSet rs = stmt.executeQuery("select * from `lecture`");

        while(rs.next()){
            lectureBean lb = new lectureBean();
            lb.setLecNo(rs.getInt(1));
            lb.setLecName(rs.getString(2));
            lb.setLecCredit(rs.getInt(1));
            lb.setLecTime(rs.getInt(1));
            lb.setLecClass(rs.getString(1));

            lectures.add(lb);
        }

        rs.close();
        stmt.close();
        conn.close();

    } catch(Exception e){
        e.printStackTrace();
    }


%>
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <title>강좌 관리</title>
        <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.1/jquery.min.js"></script>
        <script src="./js/lecReg.js"></script>
        <script>
                    }
                }
            });
        });

    </script>
</head>
<body>
    <h3>강좌 관리</h3>
    <nav>
        <a href='#'>강좌관리</a>
        <a href='./register.jsp'>수강관리</a>
        <a href='./student.jsp'>학생관리</a>
    </nav>
    <h4>강좌 현황</h4>
    <input type='submit' name=register value='등록'/>
        <table border="1">
        <tr>
            <th>번호</th>
            <th>강좌명</th>
            <th>학점</th>
            <th>시간</th>
            <th>강의장</th>
        </tr>
        <% for(lectureBean lb : lectures){ %>
        <tr>
            <td><%= lb.getLecNo() %></td>
            <td><%= lb.getLecName() %></td>
            <td><%= lb.getLecCredit() %></td>
            <td><%= lb.getLecTime() %></td>
            <td><%= lb.getLecClass() %></td>
        </tr>
        <% } %>

    </table>
    <nav id="lecReg"></nav>
</body>
</html>
```

```jsp
$(function(){


    //lecture 등록
    $(document).on('click', 'input[name=register]', function(e){
        e.preventDefault();
        lecReg();
    });

    //lecture 등록하기(submit)
    $(document).on('click', 'input[name=append]', function(e){
        e.preventDefault();

        // 데이터 가져오기
        let lecNo  = $('input[name=lecNo]').val();
        let lecName = $('input[name=lecName]').val();
        let lecCredit   = $('input[name=lecCredit]').val();
        let lecTime   = $('input[name=lecTime]').val();
        let lecClass  = $('input[name=lecClass]').val();

        // JSON 데이터 생성
        let jsonData = {
                "lecNo":lecNo,
                "lecName":lecName,
                "lecCredit":lecCredit,
                "lecTime":lecTime,
                "lecClass":lecClass
        };

        console.log(jsonData);

        // 데이터 전송
        $.ajax({
            url:'./json/lectureReg.jsp',
            type:'post',
            data:jsonData,
            datatype:'json',
            success:function(data){
                console.log(data);

                if(data.result == 1){
                    alert('데이터 입력 성공');
                } else{
                    alert('데이터 입력 실패');
```

```jsp
<%@page import="com.google.gson.JsonObject"%>
<%@page import="java.sql.PreparedStatement"%>
<%@page import="config.DBCP"%>
<%@page import="java.sql.Connection"%>
<%@ page contentType="text/html;charset=UTF-8" pageEncoding="UTF-8"%>
<%

    request.setCharacterEncoding("utf-8");
    String lecNo = request.getParameter("lecNo");
    String lecName = request.getParameter("lecName");
    String lecCredit = request.getParameter("lecCredit");
    String lecTime = request.getParameter("lecTime");
    String lecClass = request.getParameter("lecClass");

    int result = 0;

    try{
        Connection conn = DBCP.getConnection();
        String sql = "insert into `lecture` values(?,?,?,?,?)";
        PreparedStatement psmt = conn.prepareStatement(sql);
        psmt.setString(1, lecNo);
        psmt.setString(2, lecName);
        psmt.setString(3, lecCredit);
        psmt.setString(4, lecTime);
        psmt.setString(5, lecClass);

        result = psmt.executeUpdate();

        psmt.close();
        conn.close();

    }catch(Exception e){
        e.printStackTrace();
    }

    JsonObject json = new JsonObject();
    json.addProperty("result", result);

    String jsonData = json.toString();

    out.print(jsonData);

%>
```

```jsp
function lecReg(){

    $(function(){

        $('#lecReg').empty();

        $('#lecReg').append("<h4>강좌등록</h4>");
        $('#lecReg').append("<input type='submit' name='close' value='닫기'/>");

        let tags  = "<table border='1'>";
            tags += "<tr>";
            tags += "<td>번호</td>";
            tags += "<td><input type='text' name='lecNo' /></td>";
            tags += "</tr>";
            tags += "<tr>";
            tags += "<td>강좌명</td>";
            tags += "<td><input type='text' name='lecName' /></td>";
            tags += "</tr>";
            tags += "<tr>";
            tags += "<td>학점</td>";
            tags += "<td><input type='text' name='lecCredit'/></td>";
            tags += "</tr>";
            tags += "<tr>";
            tags += "<td>시간</td>";
            tags += "<td><input type='text' name='lecTime'/></td>";
            tags += "</tr>";
            tags += "<tr>";
            tags += "<td>강의장</td>";
            tags += "<td><input type='text' name='lecClass'/></td>";
            tags += "</tr>";
            tags += "<tr>";
            tags += "<td colspan='2' align='right'><input type='submit' name='append' value='추가'/></td>";
            tags += "</tr>";
            tags += "</table>";

        $('#lecReg').append(tags);


    });
}
```

Q 3 – register 기능 구현

- Register 코드

```jsp
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Statement"%>
<%@page import="java.sql.Connection"%>
<%@page import="config.DBCP"%>
<%@page import="java.util.ArrayList"%>
<%@page import="baen.registerList"%>
<%@page import="java.util.List"%>
<%@ page contentType="text/html;charset=UTF-8" pageEncoding="UTF-8"%>
<%

    List<registerList> registers = new ArrayList<>();

    try{
        Connection conn = DBCP.getConnection();
        Statement stmt = conn.createStatement();
        ResultSet rs = stmt.executeQuery("select * from `register`");

        while(rs.next()){
            registerList reg = new registerList();
            reg.setRegNo(rs.getString(1));
            reg.setRegName(rs.getString(2));
            reg.setReglecName(rs.getString(3));
            reg.setReglecCode(rs.getInt(4));
            reg.setRegMid(rs.getInt(5));
            reg.setRegFinal(rs.getInt(6));
            reg.setRegTotal(rs.getInt(7));
            reg.setRegGrade(rs.getString(8));
            registers.add(reg);

        }

        conn.close();
        stmt.close();
        rs.close();

    }catch(Exception e){
        e.printStackTrace();
    }

%>
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <title>수강관리</title>
    </head>
    <body>
        <h3>수강관리</h3>
        <nav>
            <a href='./lecture.jsp'>강좌관리</a>
            <a href='#'>수강관리</a>
            <a href='./student.jsp'>학생관리</a>
        </nav>
        <table border="1">
```

```jsp
    <head>
        <meta charset="UTF-8">
        <title>수강관리</title>
    </head>
    <body>
        <h3>수강관리</h3>
        <nav>
            <a href='./lecture.jsp'>강좌관리</a>
            <a href='#'>수강관리</a>
            <a href='./student.jsp'>학생관리</a>
        </nav>
        <table border="1">
            <tr>
                <th>학번</th>
                <th>이름</th>
                <th>강좌명</th>
                <th>강좌코드</th>
                <th>중간시험</th>
                <th>기말시험</th>
                <th>출석</th>
                <th>등급</th>
            </tr>
            <% for(registerList rt : registers){ %>
            <tr>
                <td><%= rt.getRegNo() %></td>
                <td><%= rt.getRegName() %></td>
                <td><%= rt.getReglecName() %></td>
                <td><%= rt.getReglecCode() %></td>
                <td><%= rt.getRegMid() %></td>
                <td><%= rt.getRegFinal() %></td>
                <td><%= rt.getRegTotal() %></td>
                <td><%= rt.getRegGrade() %></td>
            </tr>
            <% } %>

        </table>
    </body>
</html>
```

Q 3 – student 기능 구현

- student 코드

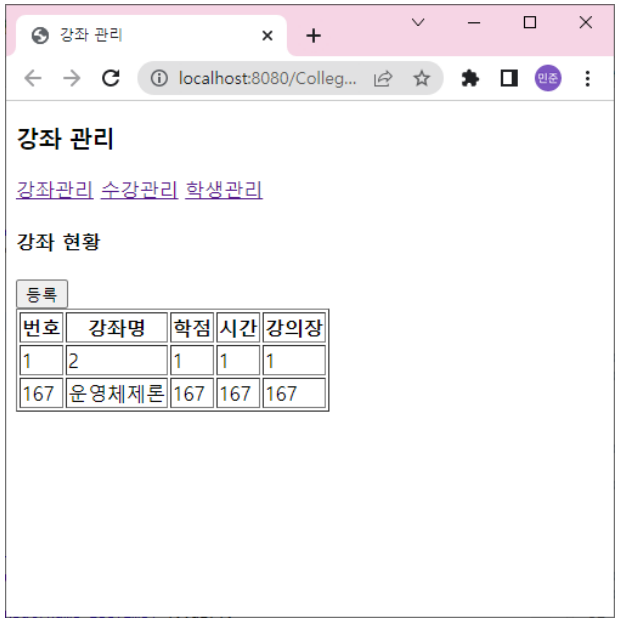
```jsp
<%@page import="java.sql.ResultSet"%>
<%@page import="java.sql.Statement"%>
<%@page import="config.DBCP"%>
<%@page import="java.sql.Connection"%>
<%@page import="java.util.ArrayList"%>
<%@page import="baen.studentList"%>
<%@page import="java.util.List"%>
<%@ page contentType="text/html;charset=UTF-8" pageEncoding="UTF-8"%>
<%

    List<studentList> students = new ArrayList<>();

    try{
        Connection conn = DBCP.getConnection();
        Statement stmt = conn.createStatement();
        ResultSet rs = stmt.executeQuery("select * from `student`");

        while(rs.next()){
            studentList std = new studentList();
            std.setStdNo(rs.getString(1));
            std.setStdName(rs.getString(2));
            std.setStdHp(rs.getString(3));
            std.setStdGrade(rs.getInt(4));
            std.setStdAddr(rs.getString(5));
            students.add(std);
        }

        conn.close();
        stmt.close();
        rs.close();

    }catch(Exception e){
        e.printStackTrace();
    }

%>
<!DOCTYPE html>
<html>
    <head>
        <meta charset="UTF-8">
        <title>학생 관리</title>
    </head>
    <body>
        <h3>학생관리</h3>
        <nav>
            <a href='./lecture.jsp'>강좌관리</a>
            <a href='./register.jsp'>수강관리</a>
            <a href='#'>학생관리</a>
        </nav>
        <table border="1">
            <tr>
                <th>학번</th>
                <th>이름</th>
                <th>휴대폰</th>
                <th>학년</th>
                <th>주소</th>
            </tr>
            <% for(studentList st : students){ %>
            <tr>
                <td><%= st.getStdNo() %></td>
                <td><%= st.getStdName() %></td>
                <td><%= st.getStdHp() %></td>
                <td><%= st.getStdGrade() %></td>
                <td><%= st.getStdAddr() %></td>
            </tr>
            <% } %>

        </table>
    </body>
</html>
```

Q 3 - 기능 구현 DBCP 커넥션

```
package config;

import java.sql.Connection;

public class DBCP {

    private static DataSource ds = null;



    public static Connection getConnection() throws NamingException, SQLException {
        if(ds == null) {
            ds = (DataSource) new InitialContext().lookup("java:comp/env/dbcp_college");
        }
        return ds.getConnection();
    }



}
```

Q 4 – Lecture 실행

⊙ Lecture 동작



⊙ Lecture 등록 동작