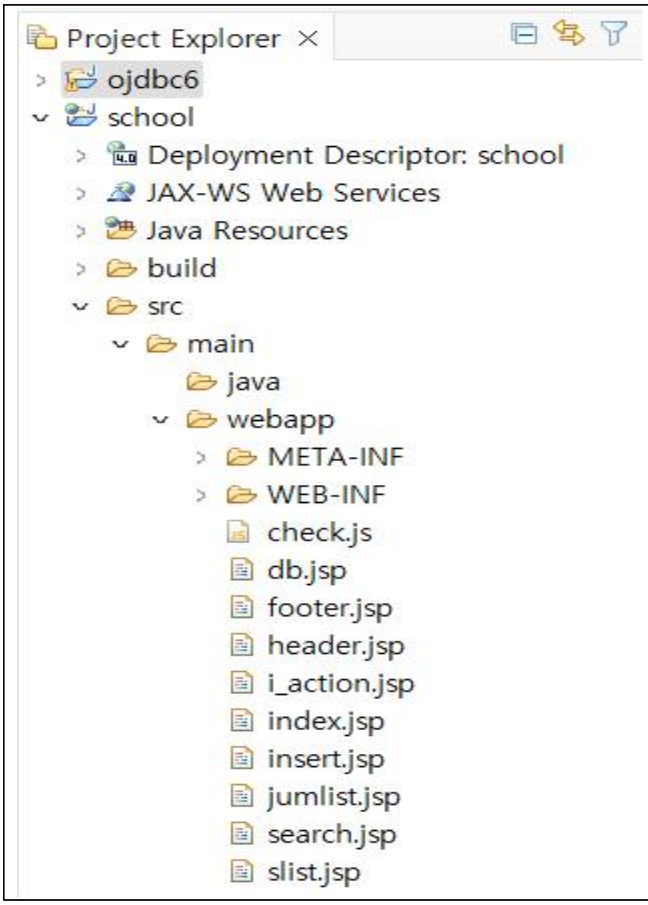
2024년 5월 정보처리산업기사 과정형평가 대비 ①

■ 수강신청(Register) 시스템 프로젝트 파일 구조 ■



▶ 프로젝트 위치

C:₩cbq_수험번호₩workspace₩HRD_수험번호_school

▶ 이클립스 환경 설정

이클립스-Window-Show view-Project Explorer
Servers

▶ 톰캣 서버와 연동(8090 포트 사용)

이클립스 하단의 Servers - Tomcat v9.0 Server at localhose 버튼을 클릭하여 [Started, Synchronized] 로 표시 되었는지 확인

▶ 시험 종료 후, 프로젝트 제출

C:₩cbq_수험번호 를 cbq_수험번호.zip으로 압축

■ 수강신청(Register) 시스템 프로젝트 준비 작업 ■

순서	내 용
1	메모장 열어서 SQL 쿼리 작성하고 명령프롬프트 창에 **복사/붙여넣기** (테이블 생성, 데이터 입력)
	CREATE TABLE 테이블이름(애트리뷰트1이름 형태(길이) not null, 애트리뷰트2이름 형태(길이), 애트리뷰트3이름 형태(길이), primary key(애트리뷰트1이름) <= 기본키가 2개일때는 primary key(이름1, 이름2)); **INSERT INTO 테이블이름 values('**문자값', '문자값', 숫자값**);** **<= 숫자에는 따옴표 안함**
	명령프롬프트에서 sqlplus system/1234 입력하고 SQL 쿼리 각각 블록지정해서 복사-붙여넣기 해서 입력 SQL 끝나고 나갈때 **COMMIT;**
2	이클립스(작업영역 위치: C:₩cbq_학번₩workspace) FILE-NEW-DYNAMIC WEP PROJECT (Project name: **hrd_학번_register**) 로 프로젝트 생성
	C₩oraclexe₩app₩oracle₩product₩11.2.0₩server₩jdbc₩lib₩odjbc6.jar 파일을 **복사**해서 프로젝트 wep-inf₩lib 에 **붙여넣기**

	이클립스-window-preferences- jsp, html. css, spelling, workspace 5가지를 검색하여 Encoding을 UTF-8로 변경하여 한글이 깨지지 않도록 함.

SQL

```
create table tbl_student_202210(
        stuid char(8) not null primary key,
        sname varchar2(20),
        dept_name varchar2(20),
        jumin char(13),
        phone char(13),
        email char(30)
);

create table tbl_score_202210(
        sid char(8) not null primary key,
        subcode char(4),
        midscore number,
        finalscore number,
        attend number,
        report number,
        etc number
);

create table tbl_subject_202210(
        subcode char(4) not null primary key,
        subname varchar2(30),
        proname varchar2(20)
);

insert into tbl_student_202210 values('20220011','김한국','사회복지과
','0301013111111','010-1111-1111','hankuk@naver.com');
insert into tbl_student_202210 values('20220012','홍길동','관광과
','0202013222222','010-2222-2222','hongkil@naver.com');
insert into tbl_student_202210 values('20220013','김미자','패션디자인과
','0203014333333','010-3333-3333','kimja@naver.com');
insert into tbl_student_202210 values('20220014','윤한얼','물리치료과
','0204014444444','010-4444-4444','yoon@naver.com');
insert into tbl_student_202210 values('20220015','김성진','모던음악과
','0205013555555','010-5555-5555','kimsj@naver.com');
insert into tbl_student_202210 values('20220016','조민지','건축과
','0206014666666','010-6666-6666','jmg@naver.com');

insert into tbl_score_202210 values('20220011','A001',80,90,100,100,100);
insert into tbl_score_202210 values('20220012','A001',85,90,90,90,80);
insert into tbl_score_202210 values('20220013','A001',75,90,80,77,80);
insert into tbl_score_202210 values('20220014','A001',90,90,100,100,70);
insert into tbl_score_202210 values('20220015','A002',70,70,80,80,90);
insert into tbl_score_202210 values('20220016','A002',96,95,100,100,90);

insert into tbl_subject_202210 values('A001','자바','정명석');
insert into tbl_subject_202210 values('A002','C언어','김미숙');
```

```
insert into tbl_subject_202210 values('A003','데이터베이스','서길동');
insert into tbl_subject_202210 values('A004','웹프로그래밍','이건원');
insert into tbl_subject_202210 values('A005','영어','박태민');
```

header.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<header style="position:fixed; top:0px; left:0px; width:100%; height:40px; line-height:40px;
background-color:orange; text-align:center; font-size:20px">
<b> (과정평가형 정보처리산업기사)학생 성적처리 프로그램 ver 2022-10 </b>
</header>

<nav style="position:fixed; top:40px; left:0px; width:100%; height:30px; line-height:30px;
background-color:pink; padding-left:20px">
<a href="slist.jsp">학생현황</a>    
<a href="insert.jsp">성적입력</a>    
<a href="jumlist.jsp">성적현황</a>    
<a href="search.jsp">과목별성적</a>    
<a href="index.jsp">홈으로</a>
</nav>
</body>
</html>
```

footer.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<footer style="position:fixed; bottom:0px; left:0px; width:100%; height:30px; line-height:30px;
background-color:orange; text-align:center">
HRDKOREA Copyright©2022 All rights reserved. Human Resources Development Service of Korea
</footer>
</body>
</html>
```

index.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<jsp:include page="header.jsp"></jsp:include>

<section style="position:fixed; top:70px; left:0px; width:100%; height:100%;
background-color:lightgray">
<h2 style="text-align:center"> 과정평가형 자격 CBQ </h2>
<p style="padding-left:20px">
국가직무능력표준(NSC:National Competency Standards)으로 설계된 교육·훈련과정을 충실히 이수한 후, 내부/외부
평가를 거쳐 일정 합격기준을 충족하는 교육 · 훈련생에게 국가기술자격을 부여하는 제도<br><br>
<b>
산업현장 중심의 교육평가 더 커지는 능력!<br><br>
알고 있는 것에 할 수 있는 것을 더하는<br><br>
과정 평가형 자격은<br><br>
현장 중심형 인재육성을 지원합니다.
</b>
</p>
</section>

<jsp:include page="footer.jsp"></jsp:include>
</body>
</html>
```

db.jsp

```
<%@page import="java.sql.*"%>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>

<%
Class.forName("oracle.jdbc.OracleDriver");
Connection con = DriverManager.getConnection
("jdbc:oracle:thin:@//localhost:1521/xe","system","1234");
%>
```

slist.jsp

```
<%@ include file="db.jsp" %>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<jsp:include page="header.jsp"></jsp:include>

<section style="position:fixed; top:70px; left:0px; width:100%; height:100%;
background-color:lightgray">
<h2 style="text-align:center"> 학생정보현황 </h2>
<form style="display:flex; align-items:center; justify-content:center; text-align:center">
        <table border="1">
                <tr>
                        <td> 학번 </td>
                        <td> 이름 </td>
                        <td> 주민번호 </td>
                        <td> 학과명 </td>
                        <td> 성별 </td>
                        <td> 전화번호 </td>
                        <td> 이메일 </td>
                </tr>
<%
request.setCharacterEncoding("UTF-8");
try{
        String sql="SELECT stuid, sname, jumin, dept_name, jumin, phone, email "+
                        "FROM tbl_student_202210";
        PreparedStatement pstmt = con.prepareStatement(sql);
        ResultSet rs = pstmt.executeQuery();
        while(rs.next()){
                String jumin = rs.getString(3);
                String jumin2 = jumin.substring(0, 6) + "-" + jumin.substring(6, 13);

                String gender = jumin.substring(6, 7); //3 or 4
                if(gender.equals("3")) gender="남자";
                else gender="여자";
                %>
                <tr>
                        <td> <%=rs.getString(1) %> </td>
                        <td> <%=rs.getString(2) %> </td>
                        <td> <%=jumin2 %> </td>
                        <td> <%=rs.getString(4) %> </td>
                        <td> <%=gender %> </td>
                        <td> <%=rs.getString(6) %> </td>
                        <td> <%=rs.getString(7) %> </td>
                </tr>
                <%
        }
}
catch(Exception e){
        e.printStackTrace();
}
%>
        </table>
</form>
</section>

<jsp:include page="footer.jsp"></jsp:include>
</body>
</html>
```

insert.jsp

```
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<jsp:include page="header.jsp"></jsp:include>
<script type="text/javascript" src="check.js"></script>
<section style="position:fixed; top:70px; left:0px; width:100%; height:100%;
background-color:lightgray">
<h2 style="text-align:center"> 성적입력 </h2>
<form action="i_action.jsp" name="frm" style="display:flex; align-items:center; justify-content:center;
text-align:center">
        <table border="1">
                <tr>
                        <td> 학번 </td>
                        <td> <input type="text" name="sid"> </td>
                </tr>

                <tr>
                        <td> 교과코드 </td>
                        <td>
                                <select name="subcode">
                                        <option value="A001"> A001-자바 </option>
                                        <option value="A002"> A002-C언어 </option>
                                        <option value="A003"> A003-데이터베이스 </option>
                                        <option value="A004"> A004-웹프로그래밍 </option>
                                        <option value="A005"> A005-영어 </option>
                                </select>
                        </td>
                </tr>

                <tr>
                        <td> 중간 </td>
                        <td> <input type="number" name="midscore"> </td>
                </tr>

                <tr>
                        <td> 기말 </td>
                        <td> <input type="number" name="finalscore"> </td>
                </tr>

                <tr>
                        <td> 출석 </td>
                        <td> <input type="number" name="attend"> </td>
                </tr>

                <tr>
                        <td> 레포트 </td>
                        <td> <input type="number" name="report"> </td>
                </tr>

                <tr>
                        <td> 기타 </td>
                        <td> <input type="number" name="etc"> </td>
                </tr>

                <tr>
                        <td colspan="2">
                                <input type="button" value="등록" onclick="add()">
                                <input type="button" value="다시쓰기" onclick="res()">
                        </td>
                </tr>
        </table>
</form>
</section>

<jsp:include page="footer.jsp"></jsp:include>
</body>
</html>
```

i_action.jsp

```jsp
<%@ include file="db.jsp" %>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>

<%
request.setCharacterEncoding("UTF-8");
String sid = request.getParameter("sid");
String subcode = request.getParameter("subcode");
String midscore = request.getParameter("midscore");
String finalscore = request.getParameter("finalscore");
String attend = request.getParameter("attend");
String report = request.getParameter("report");
String etc = request.getParameter("etc");
try{
        String sql="INSERT INTO tbl_score_202210 values(?,?,?,?,?,?,?)";
        PreparedStatement pstmt = con.prepareStatement(sql);
        pstmt.setString(1, sid);
        pstmt.setString(2, subcode);
        pstmt.setString(3, midscore);
        pstmt.setString(4, finalscore);
        pstmt.setString(5, attend);
        pstmt.setString(6, report);
        pstmt.setString(7, etc);
        pstmt.executeUpdate();
}
catch(Exception e){
        e.printStackTrace();
}
%>

<jsp:forward page="insert.jsp"></jsp:forward>
```

check.js

```javascript
function add(){
        if(frm.sid.value.length==0){
                alert("학번이 입력되지 않았습니다!");
                frm.sid.focus();
                return false;
        }

        else if(frm.midscore.value.length==0){
                alert("중간고사는 숫자가 아니거나 입력하지 않았습니다!");
                frm.midscore.focus();
                return false;
        }

        else if(frm.finalscore.value.length==0){
                alert("기말고사는 숫자가 아니거나 입력하지 않았습니다!");
                frm.finalcore.focus();
                return false;
        }

        else if(frm.attend.value.length==0){
                alert("출석은 숫자가 아니거나 입력하지 않았습니다!");
                frm.attend.focus();
                return false;
        }

        else if(frm.report.value.length==0){
                alert("레포트는 숫자가 아니거나 입력하지 않았습니다!");
                frm.report.focus();
                return false;
        }

        else if(frm.etc.value.length==0){
                alert("기타는 숫자가 아니거나 입력하지 않았습니다!");
                frm.etc.focus();
                return false;
        }

        else{
                alert("성적정보가 정상적으로 등록되었습니다!");
                document.frm.submit();
                return true;
        }
}
```

```
function res(){
        alert("정보를 지우고 처음부터 다시 입력합니다!");
        document.frm.reset();
}

function search(){
        document.frm2.submit();
}
```

jumlist.jsp

```
<%@ include file="db.jsp" %>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<jsp:include page="header.jsp"></jsp:include>

<section style="position:fixed; top:70px; left:0px; width:100%; height:100%;
background-color:lightgray">
<h2 style="text-align:center"> 성적현황 </h2>
<form style="display:flex; align-items:center; justify-content:center; text-align:center">
        <table border="1">
                <tr>
                        <td> 학번 </td>
                        <td> 성명 </td>
                        <td> 교과목 </td>
                        <td> 교과목코드 </td>
                        <td> 담당교수 </td>
                        <td> 중간 </td>
                        <td> 기말 </td>
                        <td> 출석 </td>
                        <td> 레포트 </td>
                        <td> 기타 </td>
                        <td> 평균 </td>
                        <td> 총점 </td>
                        <td> 학점 </td>
                </tr>
<%
request.setCharacterEncoding("UTF-8");
try{
        String sql="SELECT st.stuid, sname, subname, sc.subcode, proname, midscore, finalscore, attend,
report, etc, "+
                        "TO_CHAR((midscore+finalscore+attend+report+etc)/5,'999'), "+
                        "TO_CHAR((midscore*0.3)+(finalscore*0.3)+(attend*0.2)+(report*0.1)+(etc*0.1),'999.0'),
"+
                        "(midscore*0.3)+(finalscore*0.3)+(attend*0.2)+(report*0.1)+(etc*0.1) "+
                        "FROM tbl_student_202210 st, tbl_score_202210 sc, tbl_subject_202210 su "+
                        "WHERE st.stuid=sc.sid AND sc.subcode=su.subcode "+
                        "ORDER BY sname";
        PreparedStatement pstmt = con.prepareStatement(sql);
        ResultSet rs = pstmt.executeQuery();
        while(rs.next()){
                int sum = rs.getInt(13);
                String grade;
                if(sum>=95) grade="A+";
                else if(sum>=90) grade="A";
                else if(sum>=85) grade="B+";
                else if(sum>=80) grade="B";
                else if(sum>=75) grade="C+";
                else if(sum>=70) grade="C";
                else if(sum>=65) grade="D+";
                else if(sum>=60) grade="D";
                else grade="F";
                %>
                <tr>
                        <td> <%=rs.getString(1) %> </td>
                        <td> <%=rs.getString(2) %> </td>
                        <td> <%=rs.getString(3) %> </td>
                        <td> <%=rs.getString(4) %> </td>
                        <td> <%=rs.getString(5) %> </td>
                        <td> <%=rs.getString(6) %> </td>
                        <td> <%=rs.getString(7) %> </td>
                        <td> <%=rs.getString(8) %> </td>
                        <td> <%=rs.getString(9) %> </td>
                        <td> <%=rs.getString(10) %> </td>
                        <td> <%=rs.getString(11) %> </td>
                        <td> <%=rs.getString(12) %> </td>
                        <td> <%=grade %> </td>
                </tr>
                <%
        }
}




catch(Exception e){
        e.printStackTrace();
}
%>
        </table>
</form>
</section>

<jsp:include page="footer.jsp"></jsp:include>
</body>
</html>
```

search.jsp

```
<%@ include file="db.jsp" %>
<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Insert title here</title>
</head>
<body>
<script type="text/javascript" src="check.js"></script>
<jsp:include page="header.jsp"></jsp:include>

<section style="position:fixed; top:70px; left:0px; width:100%; height:100%;
background-color:lightgray">
<h2 style="text-align:center"> 과목별 성적조회 </h2>
<form name="frm2" style="display:flex; align-items:center; justify-content:center; text-align:center">
        <table border="1">
                <tr>
                        <td> 과목코드 </td>
                        <td> <input type="text" name="subcode"> </td>
                        <td> <input type="button" value="조회" onclick="search()"> </td>
                </tr>
        </table>
</form>
<br><br>
<form style="display:flex; align-items:center; justify-content:center; text-align:center">
        <table border="1">
                <tr>
                        <td> 학번 </td>
                        <td> 성명 </td>
                        <td> 학과 </td>
                        <td> 과목 </td>
                        <td> 중간 </td>
                        <td> 기말 </td>
                        <td> 출석 </td>
                        <td> 레포트 </td>
                        <td> 기타 </td>
                        <td> 총점 </td>
                        <td> 학점 </td>
                </tr>

<%
request.setCharacterEncoding("UTF-8");
String subcode = request.getParameter("subcode");
try{
        String sql="SELECT st.stuid, sname, dept_name, subname, midscore, finalscore, attend, report, etc,
"+
                        "TO_CHAR(midscore*0.3 + finalscore*0.3 + attend*0.2 + report*0.1 + etc*0.1,
'999.0'), "+
                        "midscore*0.3 + finalscore*0.3 + attend*0.2 + report*0.1 + etc*0.1 "+
                        "FROM tbl_student_202210 st, tbl_score_202210 sc, tbl_subject_202210 su "+
                        "WHERE st.stuid=sc.sid AND sc.subcode=su.subcode AND sc.subcode=? ";
        PreparedStatement pstmt = con.prepareStatement(sql);
        pstmt.setString(1, subcode);
        ResultSet rs = pstmt.executeQuery();
        while(rs.next()){
                int sum = rs.getInt(11);
                String grade;
                if(sum>=95) grade="A+";
                else if(sum>=90) grade="A";
                else if(sum>=85) grade="B+";
                else if(sum>=80) grade="B";
                else if(sum>=75) grade="C+";
                else if(sum>=70) grade="C";
                else if(sum>=65) grade="D+";
                else if(sum>=60) grade="D";
                else grade="F";
                %>
                <tr>
                        <td> <%=rs.getString(1) %> </td>
                        <td> <%=rs.getString(2) %> </td>
                        <td> <%=rs.getString(3) %> </td>
                        <td> <%=rs.getString(4) %> </td>
```

```
                        <td> <%=rs.getString(5) %> </td>
                        <td> <%=rs.getString(6) %> </td>
                        <td> <%=rs.getString(7) %> </td>
                        <td> <%=rs.getString(8) %> </td>
                        <td> <%=rs.getString(9) %> </td>
                        <td> <%=rs.getString(10) %> </td>
                        <td> <%=grade %> </td>
                </tr>
                <%
        }
}
catch(Exception e){
        e.printStackTrace();
}
%>
        </table>
</form>
</section>

<jsp:include page="footer.jsp"></jsp:include>
</body>
</html>
```