<7주차 실습>

웹 프로그래밍

Web Programming

<실행 결과>

항목 선택 후 주문 버튼 클릭

\<size.html\>
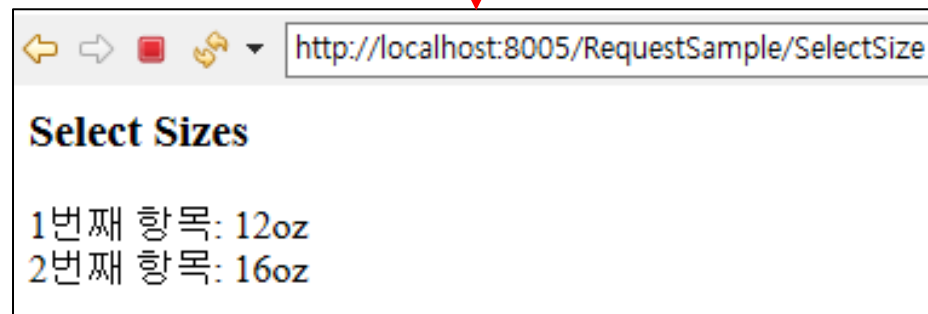
```html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      <form method="POST" action="SelectSize">
9          Select Beer Characteristic <p>
10         Can Size : </p>
11         <input type="checkbox" name="sizes" value="12oz">12 oz.<br>
12         <input type="checkbox" name="sizes" value="16oz">16 oz.<br>
13         <input type="checkbox" name="sizes" value="22oz">22 oz.<br><br><br>
14         <input type="submit" value="주문">
15     </form>
16 </body>
17 </html>
```
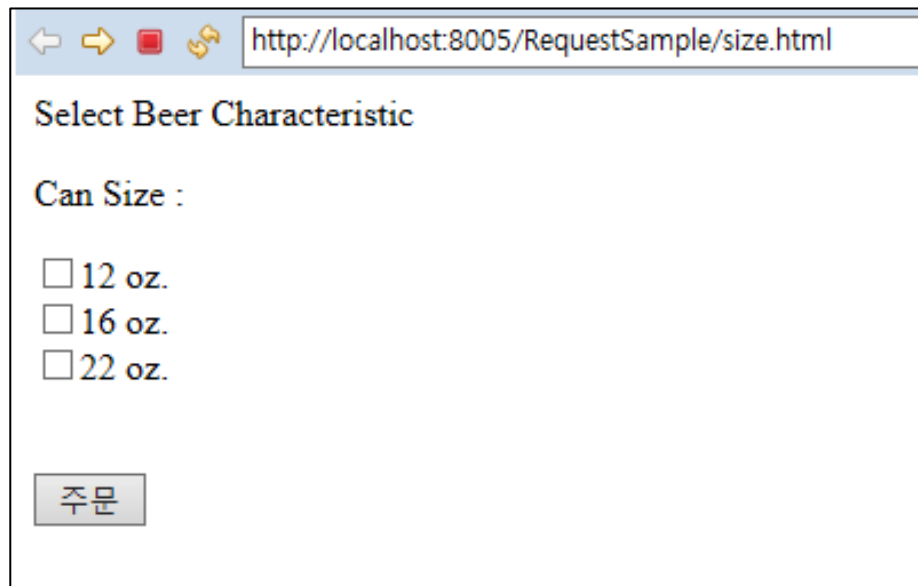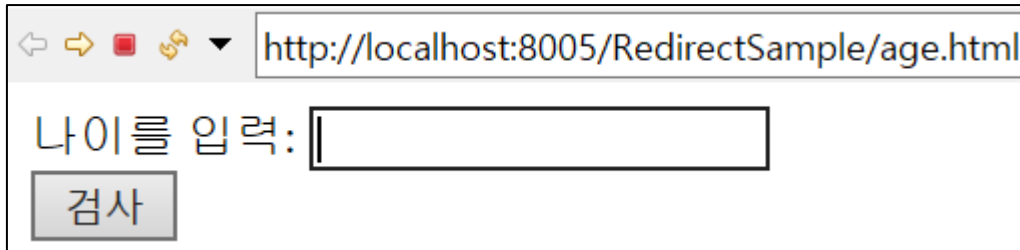
<SelectSize.java>

```java
import java.io.IOException;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import java.io.PrintWriter;

/**
 * Servlet implementation class SelectSize
 */
@WebServlet("/SelectSize")
public class SelectSize extends HttpServlet {
    private static final long serialVersionUID = 1L;
    /**
     * @see HttpServlet#HttpServlet()
     */
    public SelectSize() {
        super();
        // TODO Auto-generated constructor stub
    }
    /**
     * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
     */
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        // TODO Auto-generated method stub
        response.getWriter().append("Served at: ").append(request.getContextPath());
    }
    /**
     * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
     */
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        // TODO Auto-generated method stub

        response.setContentType("text/html;charset=UTF-8");

        String[] sizes = request.getParameterValues("sizes");

        PrintWriter out = response.getWriter();

        out.println("<h3>Select Sizes</h3>");

        for(int idx=0; idx<sizes.length; idx++){
        out.println((idx+1) + "번째 항목: " + sizes[idx] + "<br/>");
        }
    }
}
```
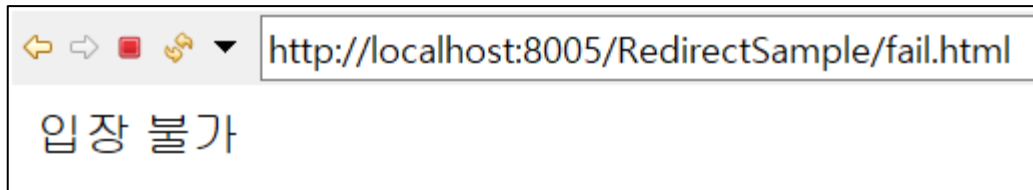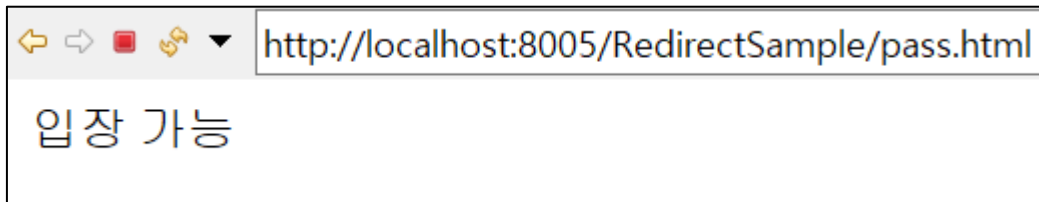
<실행 결과>

```
⇦ ⇨ ■ ⚙ ▼  http://localhost:8005/RedirectSample/age.html

나이를 입력: [                    ]
  검사
```

<19 이하 입력>

```
⇦ ⇨ ■ ⚙ ▼  http://localhost:8005/RedirectSample/fail.html

입장 불가
```

<20 이상 입력>

```
⇦ ⇨ ■ ⚙ ▼  http://localhost:8005/RedirectSample/pass.html

입장 가능
```

<age.html>

```html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      <form method="GET" action="classification">
9      나이를 입력: <input type="text" name="age"><br/>
10         <input type="submit" value="검사">
11     </form>
12 </body>
13 </html>
```

<pass.html>

```html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      입장 가능
9  </body>
10 </html>
```

<fail.html>

```html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      입장 불가
9  </body>
10 </html>
```
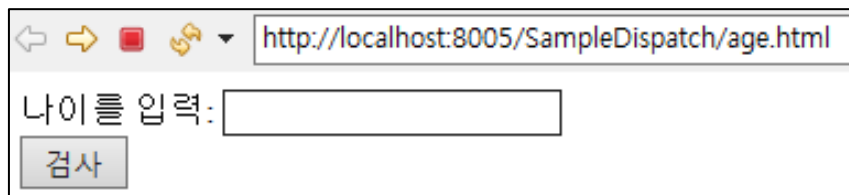
<classification Servlet → classification.java>

```java
1 import java.io.PrintWriter;
2 import java.io.IOException;
3 import javax.servlet.ServletException;
4 import javax.servlet.annotation.WebServlet;
5 import javax.servlet.http.HttpServlet;
6 import javax.servlet.http.HttpServletRequest;
7 import javax.servlet.http.HttpServletResponse;
8
9 @WebServlet("/classification")
10 public class classification extends HttpServlet {
11     private static final long serialVersionUID = 1L;
12
13     public classification() {
14         super();
15         // TODO Auto-generated constructor stub
16     }
17
18     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
19         // TODO Auto-generated method stub
20         response.setContentType("text/html;charset=UTF-8");
21         PrintWriter out = response.getWriter();
22         int age = Integer.parseInt(request.getParameter("age"));
23
24         if(age>19) {
25             response.sendRedirect("pass.html");
26         }
27         else {
28             response.sendRedirect("fail.html");
29         }
30
31     }
32 }
```
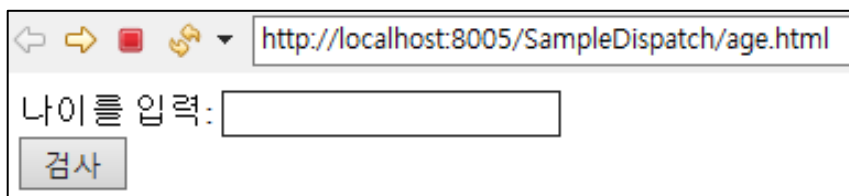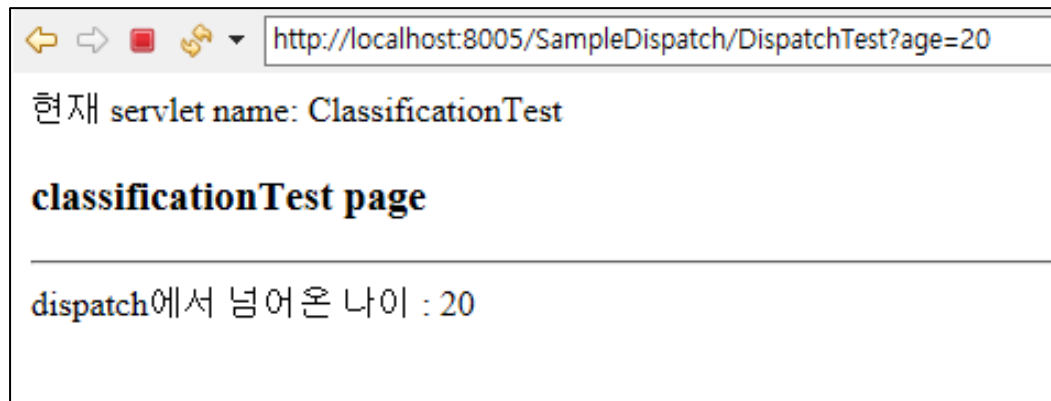
<실행 결과>

<19 이하 입력>

<20 이상 입력>

\<age.html\>

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      <form method="GET" action="DispatchTest">
9      나이를 입력: <input type="text" name="age"><br/>
10     <input type="submit" value="검사">
11 </form>
12 </body>
13 </html>
```

\<pass.html\>

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      입장 가능
9  </body>
10 </html>
```

<DispatchTest.java>

```java
1  import java.io.IOException;
2  import javax.servlet.ServletException;
3  import javax.servlet.annotation.WebServlet;
4  import javax.servlet.http.HttpServlet;
5  import javax.servlet.http.HttpServletRequest;
6  import javax.servlet.http.HttpServletResponse;
7  import java.io.PrintWriter;
8  import javax.servlet.RequestDispatcher;
9
10 /**
11  * Servlet implementation class dispatch
12  */
13 @WebServlet("/DispatchTest")
14 public class DispatchTest extends HttpServlet {
15     private static final long serialVersionUID = 1L;
16
17     /**
18      * @see HttpServlet#HttpServlet()
19      */
20     public DispatchTest() {
21         super();
22         // TODO Auto-generated constructor stub
23     }
```

```java
24
25     /**
26      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
27      */
28     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
29         // TODO Auto-generated method stub
30         //response.getWriter().append("Served at: ").append(request.getContextPath());
31
32         request.setCharacterEncoding("UTF-8");
33         response.setContentType("text/html;charset=UTF-8");
34
35         PrintWriter out = response.getWriter();
36
37         int age = Integer.parseInt(request.getParameter("age"));
38
39         if(age > 19){
40             RequestDispatcher dispatcher =
41                     request.getRequestDispatcher("ClassificationTest");
42
43             dispatcher.forward(request, response);
44
45         }else{
46             response.sendRedirect("age.html");
47         }
48
49         out.close();
50     }
51
52 }
```

<ClassificationTest.java>

```java
1  import java.io.IOException;
2  import javax.servlet.ServletException;
3  import javax.servlet.annotation.WebServlet;
4  import javax.servlet.http.HttpServlet;
5  import javax.servlet.http.HttpServletRequest;
6  import javax.servlet.http.HttpServletResponse;
7  import java.io.PrintWriter;
8
9  /**
10  * Servlet implementation class child
11  */
12 @WebServlet("/ClassificationTest")
13 public class ClassificationTest extends HttpServlet {
14     private static final long serialVersionUID = 1L;
15
16     /**
17      * @see HttpServlet#HttpServlet()
18      */
19     public ClassificationTest() {
20         super();
21         // TODO Auto-generated constructor stub
22     }
23
24     /**
25      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
26      */
27     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
28         // TODO Auto-generated method stub
29         //response.getWriter().append("Served at: ").append(request.getContextPath());
30
31         request.setCharacterEncoding("UTF-8");
32         response.setContentType("text/html;charset=UTF-8");
33
34         PrintWriter out = response.getWriter();
35
36         out.println("현재 servlet name: " + this.getServletName());
37         out.println("<h3>classificationTest page</h3>");
38
39         out.println("<hr/>dispatch에서 넘어온 나이 : "+request.getParameter("age"));
40         out.close();
41     }
42
43     /**
44      * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
45      */
46
47 }
```

\<form.html\>

```html
1  <!DOCTYPE html>
2  <html>
3  <head>
4  <meta charset="UTF-8">
5  <title>Insert title here</title>
6  </head>
7  <body>
8      <h1 align="center">Beer Selection Page</h1>
9      <form method="POST" action="SelectBeer.do">
10     Select beer characteristics - mvc1<p>
11     Color :
12     <Select name="color" size="1">
13         <option value = "light" >light </option>
14         <option value = "amber" >amber</option>
15         <option value = "brown" >brown</option>
16         <option value = "dark" >dark</option>
17     </Select>
18     <br><br>
19     <center>
20         <input type="submit"/>
21     </center>
22 </form>
23 </body>
24 </html>
```

<BeerSelect.java>

```java
 1  package com.example.web;
 2
 3  import java.io.*;
 4  import java.util.*;
 5  import javax.servlet.*;
 6  import javax.servlet.http.*;
 7  import javax.servlet.annotation.WebServlet;
 8  import java.io.PrintWriter;
 9  import java.io.IOException;
10  import javax.servlet.ServletException;
11  import javax.servlet.http.HttpServlet;
12  import javax.servlet.http.HttpServletRequest;
13  import javax.servlet.http.HttpServletResponse;
14
15
16  @WebServlet("/BeerSelect")
17  public class BeerSelect extends HttpServlet {
18      private static final long serialVersionUID = 1L;
19
20      public BeerSelect() {
21          super();
22          // TODO Auto-generated constructor stub
23      }
24
25      protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
26
27      }
28      protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
29          // TODO Auto-generated method stub
30          //doGet(request, response);
31
32          response.setContentType("text/html;charset=UTF-8");
33          PrintWriter out = response.getWriter();
34          out.println("Beer Selection Advice<br>");
35          String c = request.getParameter("color");
36          out.println("<br>Got Beer Color<br>");
37      }
38  }
```

\<web.xml\>

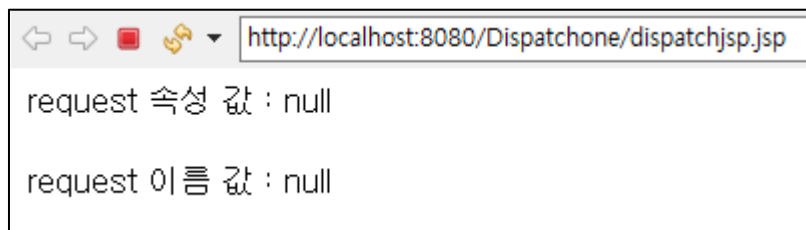```xml
1 <?xml version="1.0" encoding="UTF-8"?>
2 <web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3   xmlns="http://xmlns.jcp.org/xml/ns/javaee"
4   xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd"
5   id="WebApp_ID" version="3.1">
6
7
8 <servlet>
9 <servlet-name>mvc1</servlet-name>
10 <servlet-class>com.example.web.BeerSelect</servlet-class>
11 </servlet>
12
13 <servlet-mapping>
14 <servlet-name>mvc1</servlet-name>
15 <url-pattern>/SelectBeer.do</url-pattern>
16
17 </servlet-mapping>
18
19 </web-app>
```
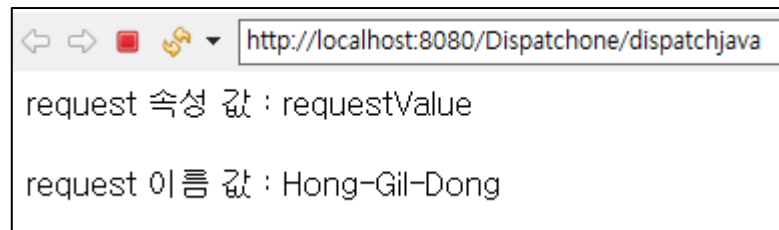
## Q1. 다음과 같은 jsp 코드를 이용하여, 아래와 같이 jsp(뷰)가 실행되도록 html(form)과 서블릿을 작성하시오.

- 서블릿에서 dispatcher로 view를 처리한다.

jsp만 실행한 결과 화면



Servlet에 의해 실행된 결과 화면



jsp 파일 코드

```
1  <%@ page language="java" contentType="text/html; charset=EUC-KR"
2     pageEncoding="EUC-KR"%>
3  <!DOCTYPE html>
4  <html>
5  <head>
6  <meta charset="EUC-KR">
7  <title>Insert title here</title>
8  </head>
9  <body>
10 request 속성 값 : <%=request.getAttribute("request")%> <br><br> request 이름 값 : <%=request.getAttribute("requestName")%>
11 </body>
12 </html>
```

Q1. 다음과 같은 jsp 코드를 이용하여, 아래와 같이 실행되도록 Dispatch 방식을 이용한 java코드를 작성하시오.

java 파일 코드

```java
import java.io.IOException;
import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
import java.io.PrintWriter;

/**
 * Servlet implementation class dispatchjava
 */
@WebServlet("/dispatchjava")
public class dispatchjava extends HttpServlet {
    private static final long serialVersionUID = 1L;

    /**
     * @see HttpServlet#HttpServlet()
     */
    public dispatchjava() {
        super();
        // TODO Auto-generated constructor stub
    }

    /**
     * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
     */
    protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        // TODO Auto-generated method stub

        response.setContentType("text/html;charset=UTF-8");
        RequestDispatcher dispatcher = request.getRequestDispatcher("              ");



    }

}
```

Q2. 이론 및 실습 자료를 참고하여 아래와 같이 동작되는 MVC1(서블릿으로만 처리)을 작성하시오.

- 빨간 박스 부분을 자신의 영어 이니셜로 변경
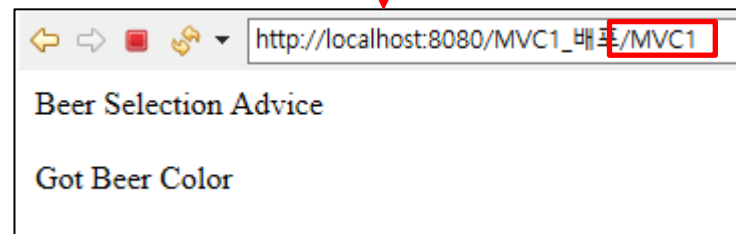
Q3. 이론 및 실습 자료를 참고하여 아래와 같이 동작되는 MVC2(서블릿+모델)을 작성하시오.

- 빨간 박스 부분을 자신의 영어 이니셜로 변경

http://localhost:8080/MVC2_배포/form.html

Beer Selection Page

Select beer characteristics - mvc2

Color : light

쿼리 전송

<amber 선택 후 쿼리 전송 클릭>

http://localhost:8080/MVC2_배포/MVC2

Beer Selection Advice - mvc2

try: Jack Amber
try: Red Moose

<light/brown/dark 선택 후 쿼리 전송 클릭>

http://localhost:8080/MVC2_배포/MVC2

Beer Selection Advice - mvc2

try: Jail Pale Ale
try: Sout Stout

Q3. 이론 및 실습 자료를 참고하여 아래와 같이 동작되는 MVC2(서블릿+모델)을 작성하시오.

- 빨간 박스 부분을 자신의 영어 이니셜로 변경

Select beer characteristics - mvc2

Color : light

쿼리 전송

\<amber 선택 후 쿼리 전송 클릭>

Beer Selection Advice - mvc2

try: Jack Amber
try: Red Moose

\<light/brown/dark 선택 후 쿼리 전송 클릭>

Beer Selection Advice - mvc2

try: Jail Pale Ale
try: Sout Stout

Q4. 이론 및 실습 자료를 참고하여 아래와 같이 동작되는 MVC3(컨트롤+모델+뷰)을 작성하시오.

- 빨간 박스 부분을 자신의 영어 이니셜로 변경

<amber 선택 후 쿼리 전송 클릭>

<light/brown/dark 선택 후 쿼리 전송 클릭>

- **제출 방식 : E-Class를 통하여 제출**

- **제출 내용 : 프로젝트 파일을 압축한 war 파일**
  - **각 문제 별로 프로젝트 파일을 생성할 것**
  - **각 프로젝트 명은 Q + 문제 번호로 할 것 (ex. 1번 문제의 경우 Q1)**

- **제출 형식 : ZIP File(만들어지는 war 파일들을 압축)**

- **제목 형식 : 학번_이름_주차**
  - **ex) 학번_홍길동_7주차.zip**

- **제출 기한 : 10월 19일(토) 23시 59분까지**
  - **연장 제출 불허**