

〈7주차 실습〉

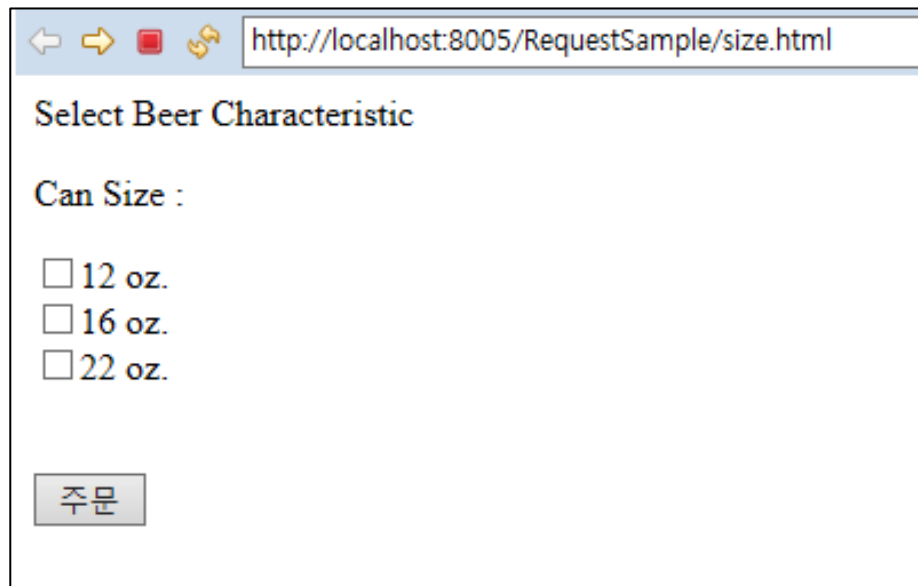
웹 프로그래밍

Web Programming

1. Request – (1/3)

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<실행 결과>



← → ⏏ ↻ http://localhost:8005/RequestSample/size.html

Select Beer Characteristic

Can Size :

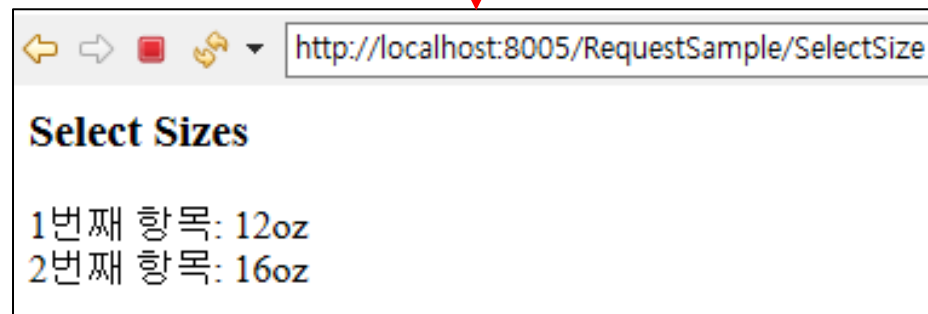
☐ 12 oz.

☐ 16 oz.

☐ 22 oz.

주문

항목 선택 후 주문 버튼 클릭



← → ⏏ ↻ http://localhost:8005/RequestSample/SelectSize

Select Sizes

1번째 항목: 12oz

2번째 항목: 16oz

1. Request – (2/3)

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<size.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>
```

1. Request – (3/3)

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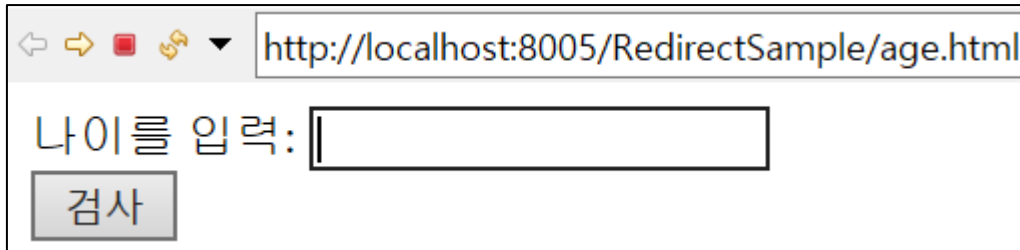
<SelectSize.java>

```
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 SelectSize
11  */
12 @WebServlet("/SelectSize")
13 public class SelectSize extends HttpServlet {
14     private static final long serialVersionUID = 1L;
15     /**
16      * @see HttpServlet#HttpServlet()
17      */
18     public SelectSize() {
19         super();
20         // TODO Auto-generated constructor stub
21     }
22     /**
23      * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
24      */
25     protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
26         // TODO Auto-generated method stub
27         response.getWriter().append("Served at: ").append(request.getContextPath());
28     }
29     /**
30      * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
31      */
32     protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
33         // TODO Auto-generated method stub
34
35         response.setContentType("text/html;charset=UTF-8");
36
37         String[] sizes = request.getParameterValues("sizes");
38
39         PrintWriter out = response.getWriter();
40
41         out.println("<h3>Select Sizes</h3>");
42
43         for(int idx=0; idx<sizes.length; idx++){
44             out.println((idx+1) + "번째 항목: " + sizes[idx] + "<br/>");
45         }
46     }
47 }
```

2. Redirect – (1/3)

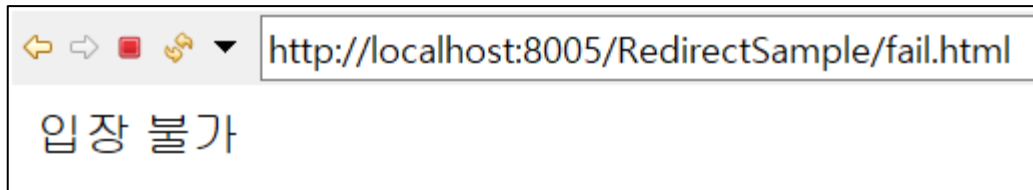
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<실행 결과>



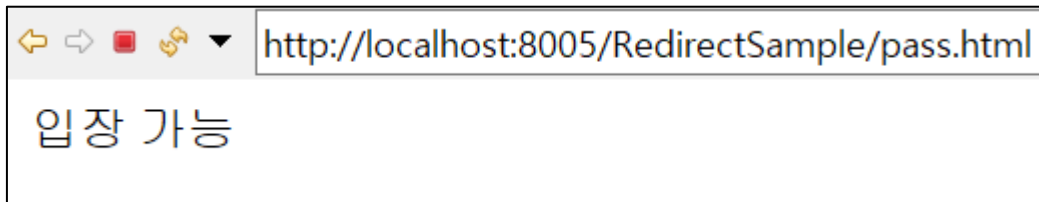
A screenshot of a web browser window. The address bar shows the URL `http://localhost:8005/RedirectSample/age.html`. Below the address bar, the text "나이를 입력:" is followed by an empty text input field. Below the input field is a button labeled "검사".

<19 이하 입력>



A screenshot of a web browser window. The address bar shows the URL `http://localhost:8005/RedirectSample/fail.html`. Below the address bar, the text "입장 불가" is displayed.

<20 이상 입력>



A screenshot of a web browser window. The address bar shows the URL `http://localhost:8005/RedirectSample/pass.html`. Below the address bar, the text "입장 가능" is displayed.

2. Redirect – (2/3)

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<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="classification">
9        나이를 입력: <input type="text" name="age"><br/>
10         <input type="submit" value="검색">
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>
```

<fail.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>
```

2. Redirect – (3/3)

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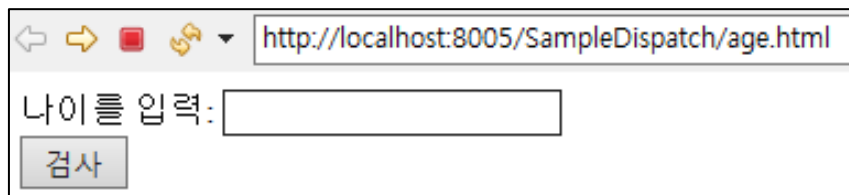
<classification Servlet → classification.java>

```
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 }
```

3. Dispatch – (1/4)

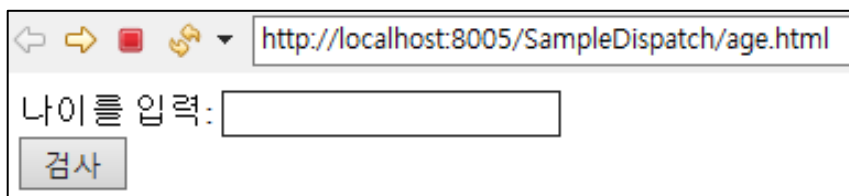
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<실행 결과>



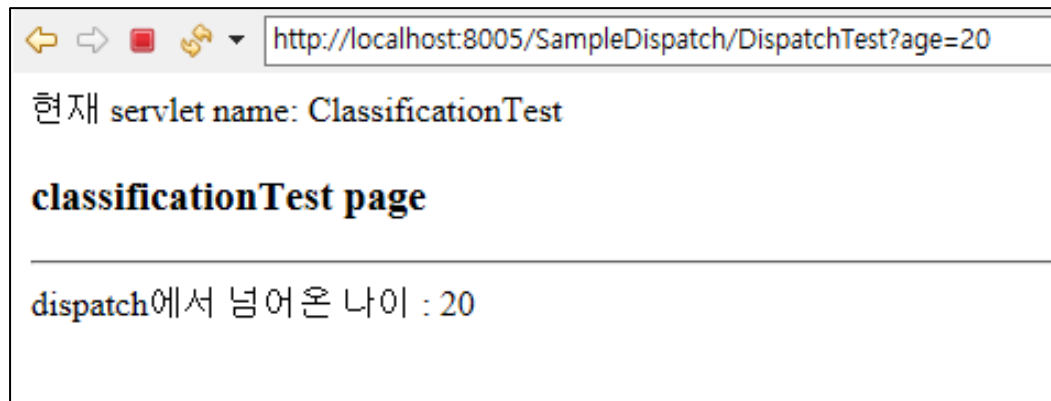
A screenshot of a web browser window. The address bar shows the URL `http://localhost:8005/SampleDispatch/age.html`. The page content includes a label "나이를 입력:" followed by a text input field. Below the input field is a button labeled "검사".

<19 이하 입력>



A screenshot of the same web browser window. The address bar still shows `http://localhost:8005/SampleDispatch/age.html`. The form is identical to the previous one, with the label "나이를 입력:" and a text input field, and a "검사" button below it.

<20 이상 입력>



A screenshot of a web browser window showing the result of a dispatch test. The address bar shows the URL `http://localhost:8005/SampleDispatch/DispatchTest?age=20`. The page content displays the following text:

현재 servlet name: ClassificationTest

classificationTest page

dispatch에서 넘어온 나이 : 20

3. Dispatch - (2/4)

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<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="검색">
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>
```

3. Dispatch – (3/4)

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<DispatchTest.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     }
```

```
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 }
```

3. Dispatch – (4/4)

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<ClassificationTest.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 }
```

4. MVC1 : Servlet 단독 (1/3)

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<form.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>
```

4. MVC1 : Servlet 단독 (2/3)

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<BeerSelect.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 }
```

4. MVC1 : Servlet 단독 (3/3)

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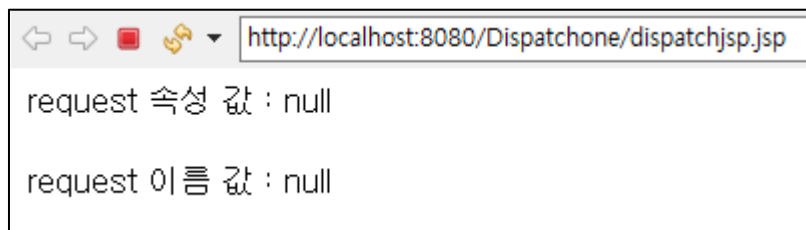
<web.xml>

```
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 </servlet-mapping>
17
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.

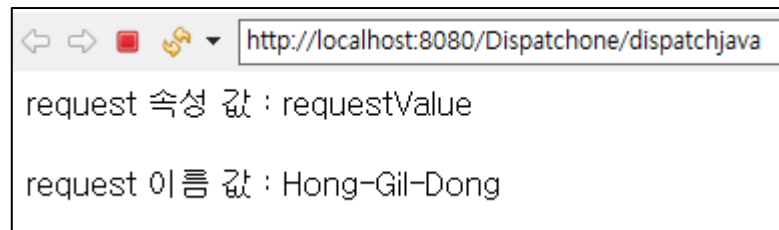
jsp만 실행한 결과 화면



request 속성 값 : null

request 이름 값 : null

Servlet에 의해 실행된 결과 화면



request 속성 값 : requestValue

request 이름 값 : Hong-Gil-Dong

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

```
1 import java.io.IOException;
2 import javax.servlet.RequestDispatcher;
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 import java.io.PrintWriter;
9
10 /**
11  * Servlet implementation class dispatchjava
12  */
13 @WebServlet("/dispatchjava")
14 public class dispatchjava extends HttpServlet {
15     private static final long serialVersionUID = 1L;
16
17     /**
18      * @see HttpServlet#HttpServlet()
19      */
20     public dispatchjava() {
21         super();
22         // TODO Auto-generated constructor stub
23     }
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
31         response.setContentType("text/html;charset=UTF-8");
32         RequestDispatcher dispatcher = request.getRequestDispatcher(" ");
33
34
35     }
36 }
37
38 }
```


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

- 빨간 박스 부분을 자신의 영어 이니셜로 변경



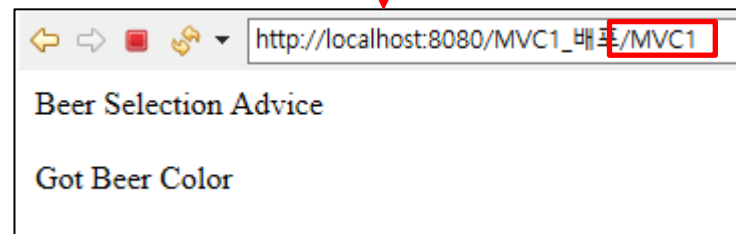
Beer Selection Page

Select beer characteristics - mvc1

Color : light ▼

쿼리 전송

쿼리 전송 클릭



Beer Selection Advice

Got Beer Color

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

- 빨간 박스 부분을 자신의 영어 이니셜로 변경



<amber 선택 후 쿼리 전송 클릭>



<light/brown/dark 선택 후 쿼리 전송 클릭>



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

- 빨간 박스 부분을 자신의 영어 이니셜로 변경



Beer Selection Page

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



A screenshot of a web browser showing a form titled "Beer Selection Page". The URL is "http://localhost:8080/MVC3_배포/form.html". The form contains the text "Select beer characteristics - mvc3" and a dropdown menu for "Color" with "light" selected. A button labeled "쿼리 전송" (Query Send) is at the bottom.

<amber 선택 후 쿼리 전송 클릭>



A screenshot of a web browser showing a page titled "Beer Recommendation JSP". The URL is "http://localhost:8080/MVC3_배포/MVC3", with "MVC3" highlighted in a red box. The page displays two recommendations: "try: Jack Amber" and "try: Red Moose".

<light/brown/dark 선택 후 쿼리 전송 클릭>



A screenshot of a web browser showing a page titled "Beer Recommendation JSP". The URL is "http://localhost:8080/MVC3_배포/MVC3", with "MVC3" highlighted in a red box. The page displays two recommendations: "try: Jail Pale Ale" and "try: Sout Stout".

- 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