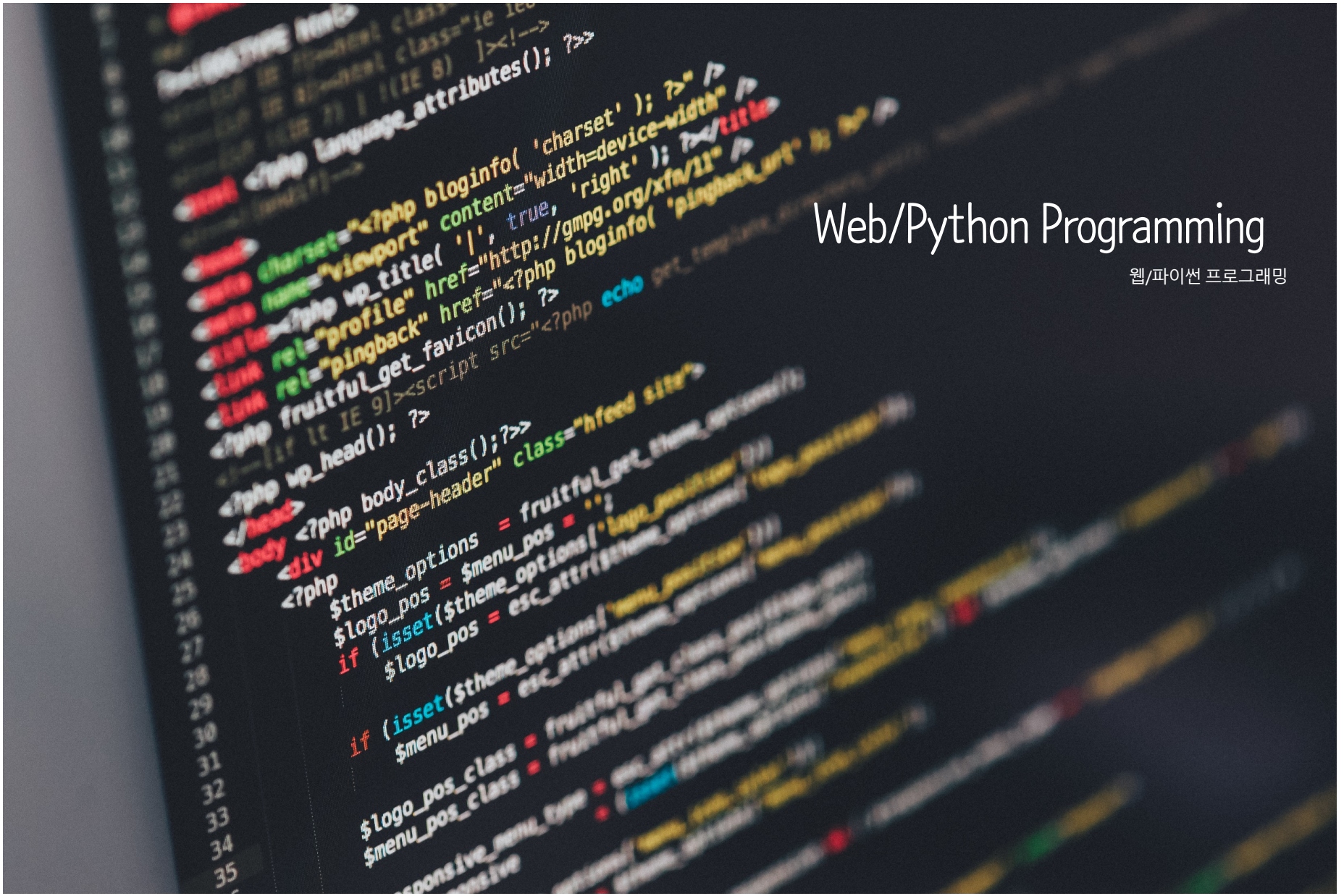


Web/Python Programming

웹/파이썬 프로그래밍

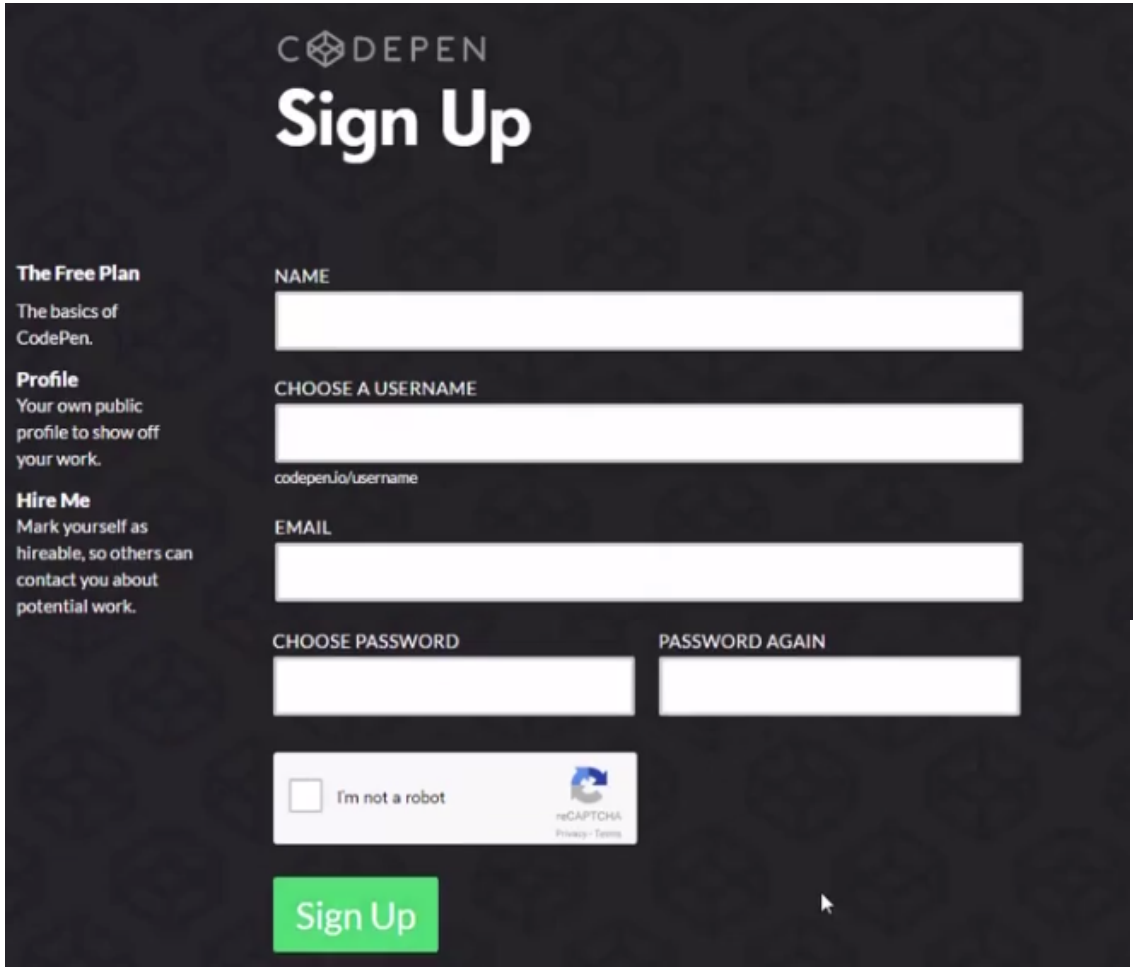
Today

- HTML forms
  - Purpose
  - Basic forms
  - Validating HTML input
- How HTML5 works with forms in validation using pattern recognition
- JavaScript
  - Validate user input
  - Applying consistent style to labels, input, and feedback in forms
  - Regular expression
  - Basic Javascript syntax

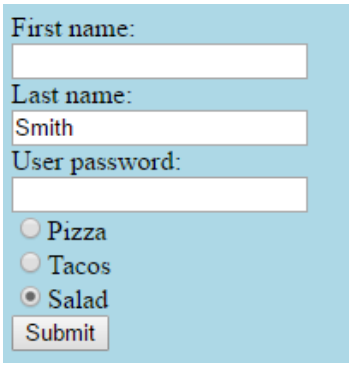
HTML form

- Collect information from a user

- Sign-up
- Survey



HTML form example

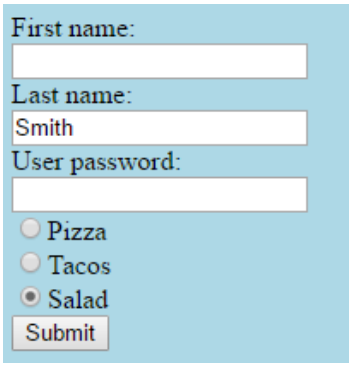


- Input types:
- Text
- Password
- Radio button - name
- Submit

CSSlayout.html | together.css | together.html | javaScriptTestingCSS2.html | formsInput2.html | formsInput1.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>HTML Forms 1</title>
5
6      <link rel="stylesheet" type="text/css" href="basic.css">
7
8  </head>
9
10 <body>
11
12     <form>
13     First name:<br>
14     <input type="text" name="firstname"><br>
15     Last name:<br>
16     <input type="text" name="lastname" value="Smith"><br>
17     User password:<br>
18     <input type="password" name="password"><br>
19
20     <input type="radio" name="food" value="Pizza">Pizza<br>
21     <input type="radio" name="food" value="Tacos">Tacos<br>
22     <input type="radio" name="food" value="Salad" checked>Salad<br>
23
24     <input type="submit" value="Submit">
25
26     </form>
27
28 </body>
29
30 </html>
31
```

HTML form - Submit



- When you click “submit”
- The information is sent to the server
- We don’t have the server, yet.

More input types

First name:

Last name:
Smith

User password:

- Pizza
- Tacos
- Salad

I know HTML

I know JavaScript

Quantity (between 1 and 5):

Birthday: mm/dd/yyyy

Select your favorite color:

Submit

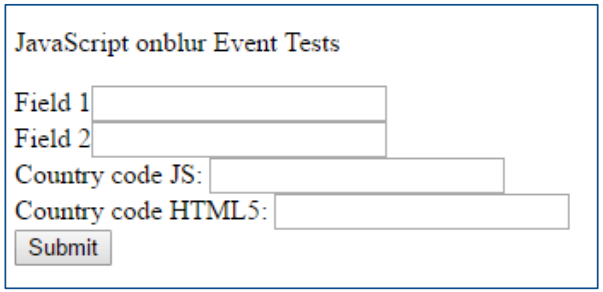
- Radio button vs. Check box
- Quantity – mouse over
- Required

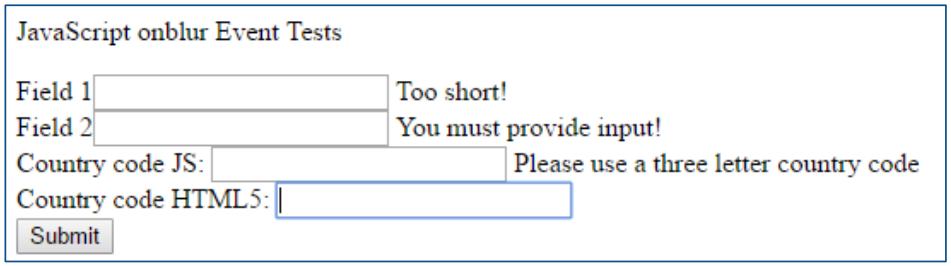
CSSlayout.html | together.css | together.html | javaScriptTestingCSS2.html | formsInput2.html | formsInput1.html

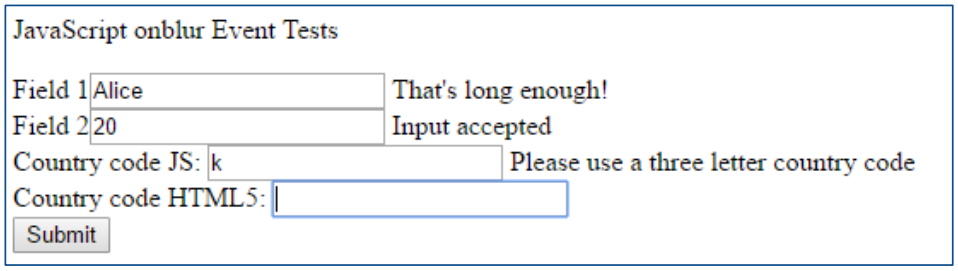
```
<!DOCTYPE html>
<html>
<head>
    <title>HTML Forms 2</title>

    <link rel="stylesheet" type="text/css" href="basic.css">

</head>

<body>

    <form>
    First name:<br>
    <input type="text" name="firstname" required><br>
    Last name:<br>
    <input type="text" name="lastname" value="Smith"><br>
    User password:<br>
    <input type="password" name="password"><br>

    <input type="radio" name="food" value="Pizza" checked>Pizza<br>
    <input type="radio" name="food" value="Tacos" >Tacos<br>
    <input type="radio" name="food" value="Salad" >Salad<br>

    <input type="checkbox" name="skills" value="HTML">I know HTML<br>
    <input type="checkbox" name="skills" value="JavaScript">I know JavaScript<br>

    Quantity (between 1 and 5):
    <input type="number" name="quantity" min="1" max="5"><br>

    Birthday:
    <input type="date" name="birthday"><br>

    Select your favorite color:
    <input type="color" name="favcolor"><br>

    <input type="submit" value="Submit"><br>

    </form>

</body>

</html>
```

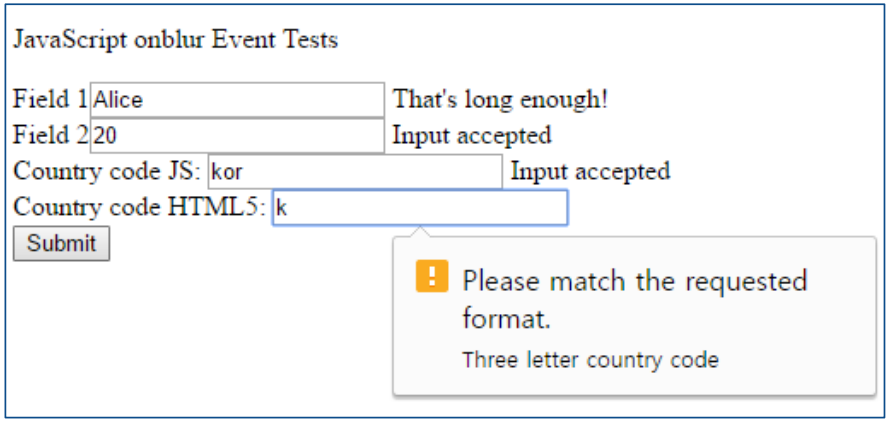
HTML Form validation

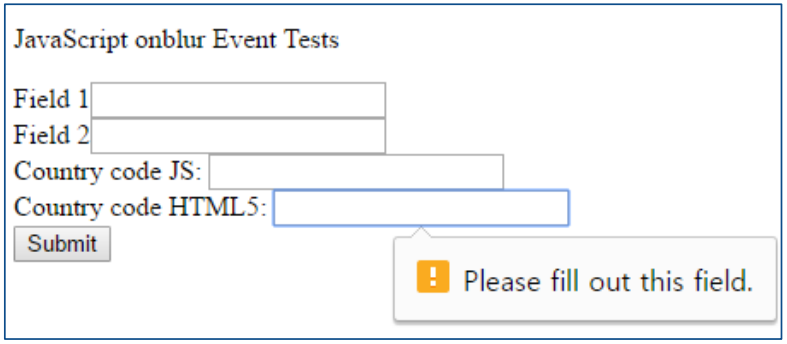
- Form validation using JavaScript and using HTML5











HTML Form validation: regular expression

- JavaScriptOnBlur2->JavaScriptOnBlur3.html

formsInput2.html | formsInput1.html | javaScriptOnBlur.html | javaScriptOnBlur3.html

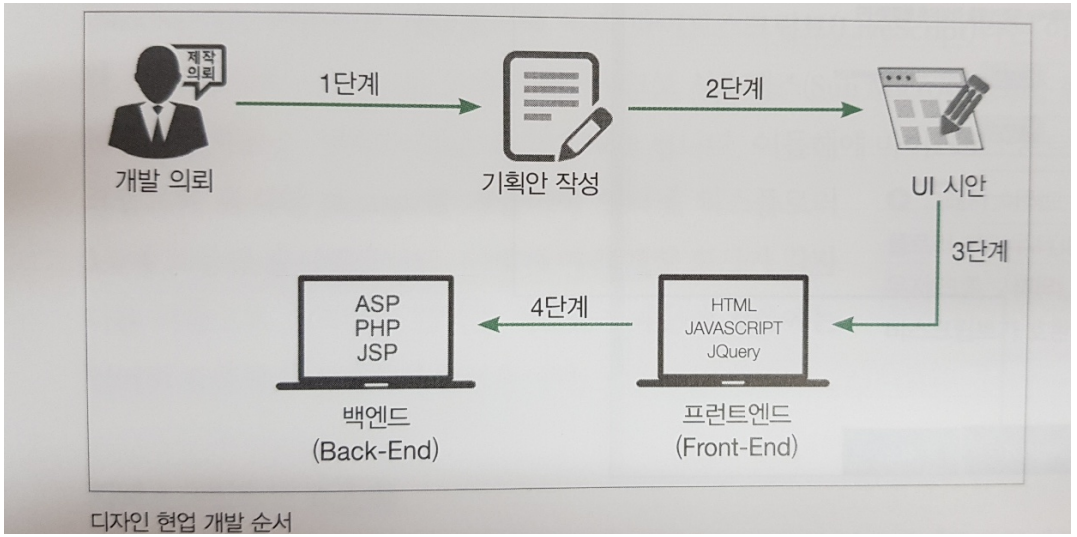
```
<!DOCTYPE html>
<html>
<head>
    <title>Onblur Event Page</title>

    <script>
    function checkField1()
    {
        var field = document.getElementById("field1").value;

        if (field.length < 5)
            document.getElementById("m
        else
            document.getElementById("m
    }

    function checkField2()
    {
        var field = document.getElemer

        if (field != "")
            document.getElementById("m
        else
            document.getElementById("m
    }

    function checkField3()
    {
        var field = document.getElementById("field3").value;
        var regex = /^[A-Za-z]{3}$/;

        if (regex.test(field))
            document.getElementById("message3").innerHTML = "Input accepted";
        else
            document.getElementById("message3").innerHTML = "Please use a three letter country code";
    }
    </script>

</head>
```

```
<body>
    <p>JavaScript onblur Event Tests</p>

    <form>
    Field 1<input id="field1" type="text" onblur="checkField1();"/> <span id="message1"></span><br>
    Field 2<input id="field2" type="text" onblur="checkField2();"/> <span id="message2"></span><br>
    Country code JS: <input id="field3" type="text" onblur="checkField3();"/> <span id="message3"></span><br>
    Country code HTML5: <input type="text" name="country_code" pattern="[A-Za-z]{3}" title="Three letter country code" required><br>
    <input type="submit">
    </form>

</body>

</html>
```

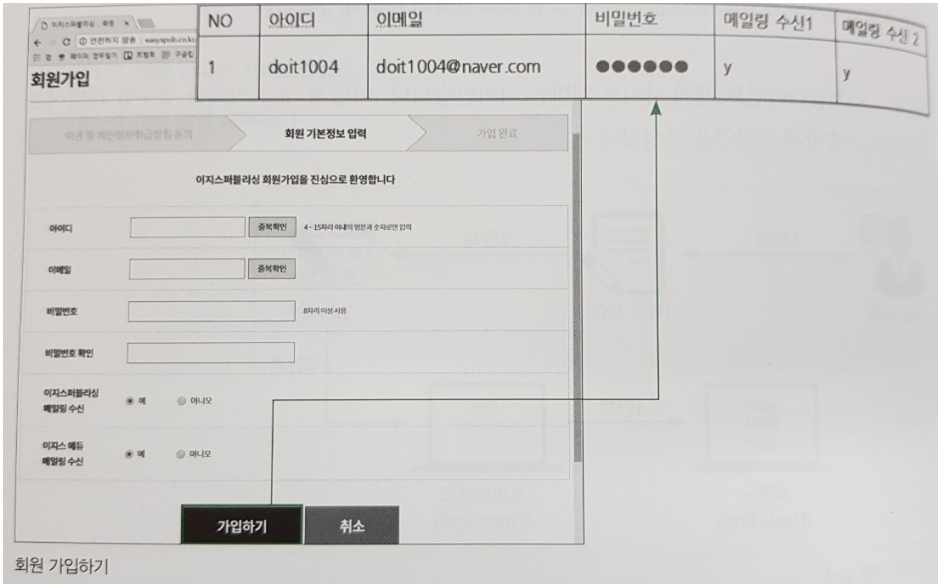
More about Javascript

- Front-end development
  - HTML, CSS – static pages
  - Javascript – dynamic pages
  - What users see on webpages

- Back-end development
  - ASP, PHP, JSP
  - Python, Javascript, Go, etc.,
  - What users cannot see
  - Ex) managing user database



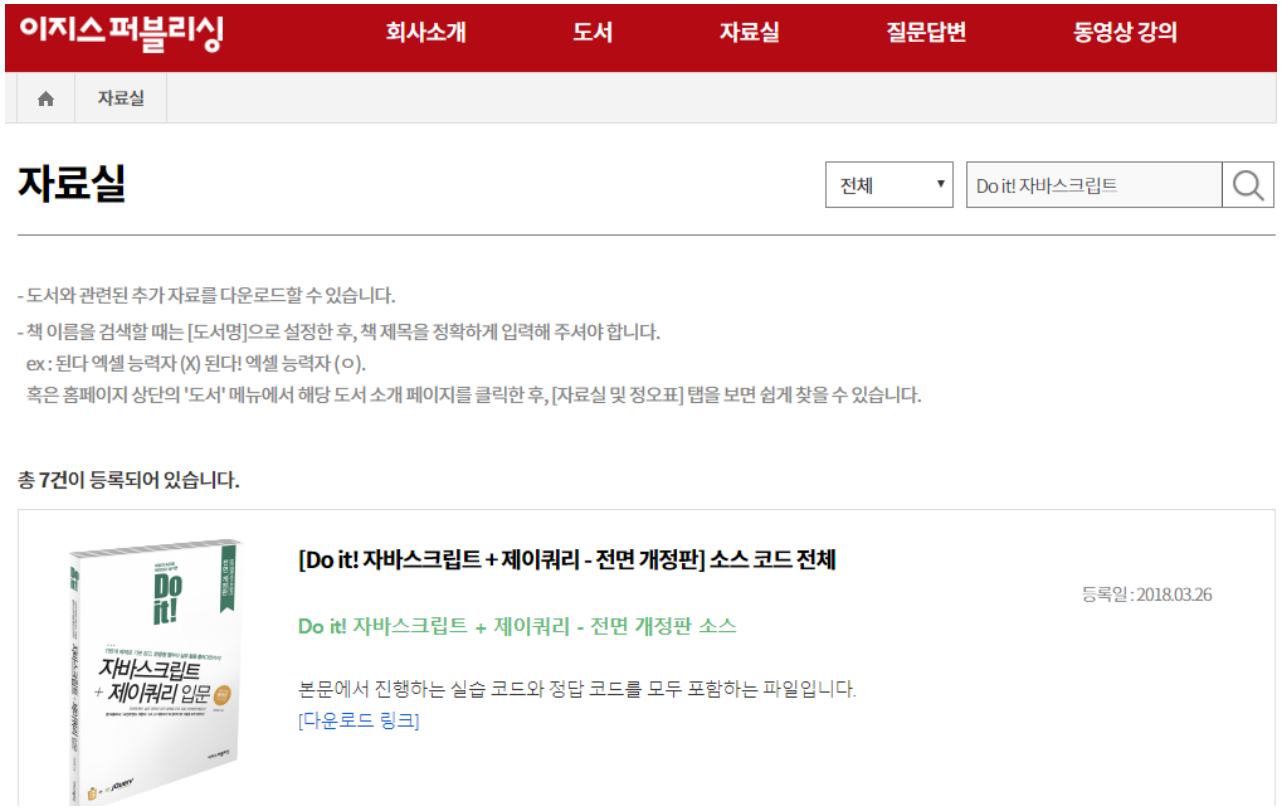
디자인 현업 개발 순서



회원 가입하기

Example source code

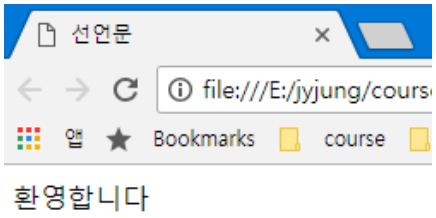
- www.easyspub.co.kr -> 이지스퍼블리싱-> 회원가입/로그인->자료실



Javascript - start

- Complete your statement_test.html

```
statement_test.html  statement_c.html
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4      <meta charset="UTF-8">
5      <title>선언문</title>
6      <script>
7          document.write("환영합니다");
8      </script>
9  </head>
10 <body>
11 </body>
12 </html>
```



Caution

- Case sensitive
- Semicolon ends the statement
- Opening and closing () {}

Javascript - variables

- Data types
  - String
  - Number
  - Boolean
  - Null

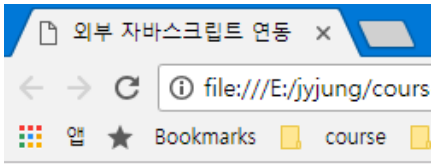
```
var a = 0;
var box;
box = 1;
```

Variables

- Complete your var_ex1_test.html

var_ex1_test.html | var_ex1_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4      <meta charset="UTF-8">
5      <title> 외부 자바스크립트 연동 </title>
6      <script>
7          var box;
8          box = 100;
9          box = 30;
10         document.write(box);
11     </script>
12 </head>
13 <body>
14 </body>
15 </html>
```



30

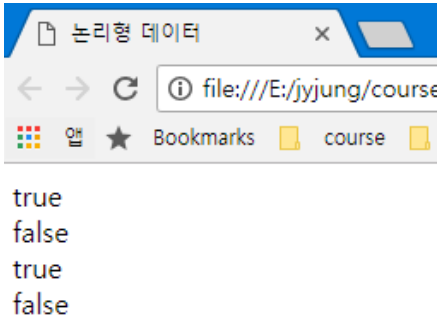
```
var s = “javascript”;
var num = ‘100’;
var tag = “<h1>Hello</h1>”;

var p = 100;
var t = Number(“500”);

var a; // undefined
var b = null; // null
```

Boolean

- Complete your boolean_test.html

boolean_test.html | boolean_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title>논리형 데이터</title>
6  <script>
7      var a = true;
8      var b = false;
9      var c = 10 > 5; //true
10     var d = Boolean(null); //false
11
12     document.write(a, "<br>");
13     document.write(b, "<br>");
14     document.write(c, "<br>");
15     document.write(d, "<br>");
16 </script>
17 </head>
18 <body>
19 </body>
20 </html>
```



- Boolean( )
  - 0, null, undefined: false
  - Others: true

```
var a = true;
var b = 10 >= 100;          // false
var c = Boolean("hello"); // true
var d;          // undefined
var e = null; // null
```

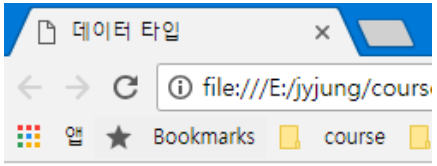
typeof

- Complete your typeof_test.html

typeof_test.html | typeof_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title>데이터 타입</title>
6  <script>
7      var num = 100;
8      var str = "자바스크립트";
9
10     document.write(typeof num, "<br>");
11     document.write(typeof str);
12 </script>
13 </head>
14 <body>
15 </body>
16 </html>
```

- When you want to check the type of a variable



number
string

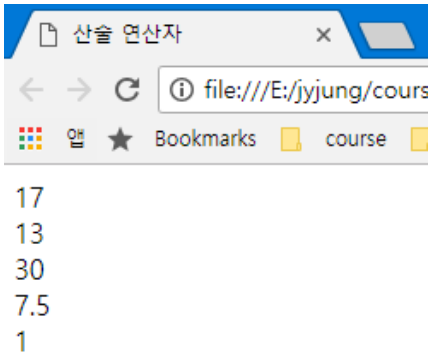
Precautions on variables

- A variable name starts with $, _, or character
- A variable name includes $, _, characters, and numbers.
- Some words cannot be used as a variable names
  - document
  - location
  - Window etc.
- Variable names are case sensitive

```
var 1num = 10; (x)
var $num = 10; (o)
var 100num = 10; (x)
var num100 = 10; (o)
var document = 10; (x)

var num = 10;
document.write(Num) (x)
document.write(num) (o)
```

Operators

	Operation
+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulo (나머지)



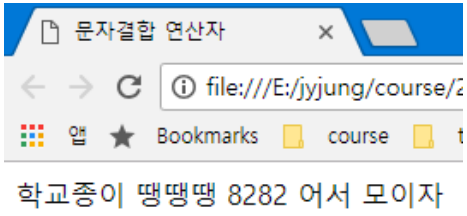
- Complete your part2-5-1-test.html

part2-5-1-test.html | part2-5-1.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4      <meta charset="UTF-8">
5      <title> 산술 연산자 </title>
6      <script>
7          var num1 = 15;
8          var num2 = 2;
9          var result;
10         result = num1 + num2;
11         document.write(result, "<br>"); // 17
12         result = num1 - num2;
13         document.write(result, "<br>"); // 13
14         result = num1 * num2;
15         document.write(result, "<br>"); // 30
16         result = num1 / num2;
17         document.write(result, "<br>"); // 7.5
18         result = num1 % num2;
19         document.write(result, "<br>"); // 1
20     </script>
21 </head>
22 <body>
23 </body>
24 </html>
```

String concatenation

- String + Number is possible!
- String + Number becomes String



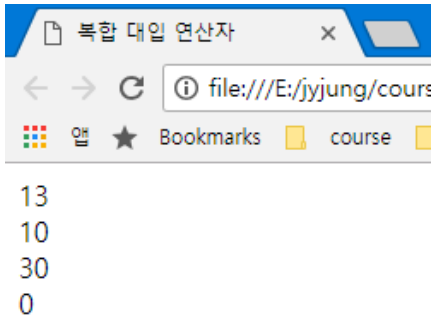
- Complete your string_plus_test.html

string_plus_test.html | string_plus_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title> 문자결합 연산자 </title>
6  <script>
7      var t1 = "학교종이";
8      var t2 = " 땡땡땡 ";
9      var t3 = 8282;
10     var t4 = " 어서 모이자";
11     var result;
12
13     result = t1 + t2 + t3 + t4;
14     document.write(result);
15 </script>
16 </head>
17 <body>
18 </body>
19 </html>
```

Complex assignment operator

	Operation
A = B	A = B
A += B	A = A + B
A -= B	A = A – B
A *= B	A = A * B
A /= B	A = A / B
A %= B	A = A % B
A++	A = A+1
A--	A = A-1



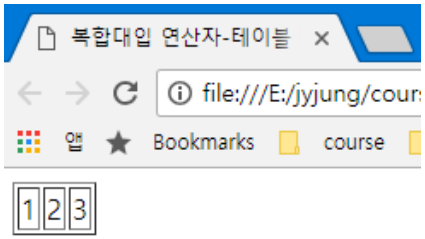
- Complete your dboperator_test.html

dboperator_test.html | dboperator_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title> 복합 대입 연산자 </title>
6  <script>
7          var num1 = 10;
8          var num2 = 3;
9          num1 += num2;
10         document.write(num1, "<br>"); // 13
11
12         num1 -= num2;
13         document.write(num1, "<br>"); // 10
14
15         num1 *= num2;
16         document.write(num1, "<br>"); // 30
17
18         num1 %= num2;
19         document.write(num1, "<br>"); // 0
20 </script>
21 </head>
22 <body>
23 </body>
24 </html>
```

Complex assignment operator

- Assign HTML tags to a String variable
- Complete your texttable_test.html



texttable_test.html | texttable_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title> 복합대입 연산자-테이블 만들기 </title>
6  <script>
7      var str = "<table border='1'>";
8      str += "<tr>";
9      str += "<td>1</td><td>2</td><td>3</td>";
10     str += "</tr>";
11     str += "</table>";
12     document.write( str );
13 </script>
14 </head>
15 <body>
16 </body>
17 </html>
```

Complex assignment operator

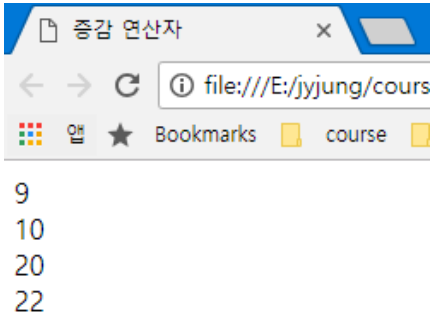
- Complete your growth_test.html

```
result = num2++;
```

```
result = num2;
num2++;
```

```
result = ++num2;
```

```
num2++;
result = num2;
```



growth_test.html | growth_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title> 증감 연산자 </title>
6  <script>
7      var num1 = 10;
8      var num2 = 20;
9      var result;
10
11     num1--; //9
12     document.write(num1, "<br>");
13
14     num1++; //10
15     document.write(num1, "<br>");
16
17     result = num2++;  //result: 20, num2: 21
18     document.write(result, "<br>");
19
20     result = ++num2;  //result: 22, num2: 22
21     document.write(result, "<br>");
22 </script>
23 </head>
24 <body>
25 </body>
26 </html>
```

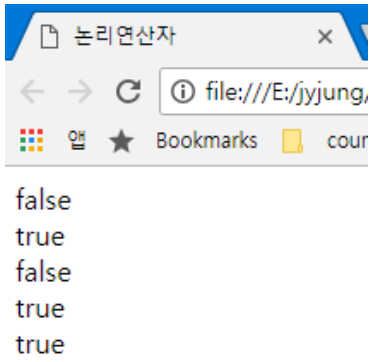
Comparison operator

Symbol	Explanation
A > B	A is greater than B
A < B	A is less than B
A >= B	A is greater than or equal to B
A <= B	A is less than or equal to B
A ==B	A is equal to B
A != B	A is not equal to B
A === B	A is equal to B (value and type)
A !==B	A is not equal to B (value and type)

```
var K = 10, M = “10”;
K == 10  // true
M == 10  // true
K === 10 // true
M === 10 // false
```

Logic operators / Precedence

Symbol	Explanation
!	not
&&	and
||	or



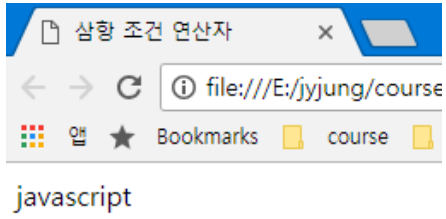
- Precedence
  - ① ( )
  - ② --, ++, !
  - ③ *, /, %, +, -
  - ④ >, >=, <, <=, ==, !=, ===, !==
  - ⑤ &&, ||
  - ⑥ =, +=, -=, *=, /=, %=
- Complete your prior_test.html

prior_test.html | prior_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4      <meta charset="UTF-8">
5      <title> 논리연산자 </title>
6  <script>
7      var a = 10;
8      var b = 20;
9      var m = 30;
10     var n = 40;
11
12     var result;
13
14     result = a > b || b > m || m > n;
15     document.write(result, "<br>");
16
17     result = a > b || b >= m || m <= n;
18     document.write(result, "<br>");
19
20     result = a <= b && b >= m && m <= n;
21     document.write(result, "<br>");
22
23     result = a <= b && b <= m && m <= n;
24     document.write(result, "<br>");
25
26     result= !(a > b);
27     document.write(result, "<br>");
28 </script>
29 </head>
30 <body>
31 </body>
32 </html>
```

Conditional operator: ?

```
condition? Code1 : Code2;

if (condition == true)
    Code1;
else
    Code2;
```



- Complete your three_condi_test.html

three_condi_test.html | three_condi_c.html

```
1  <!DOCTYPE html>
2  <html lang="ko">
3  <head>
4  <meta charset="UTF-8">
5  <title> 삼항 조건 연산자 </title>
6  <script>
7      var a = 10;
8      var b = 3;
9
10     var result = a > b ? "javascript" : "hello";
11     document.write(result); //jvaascript
12 </script>
13 </head>
14 <body>
15 </body>
16 </html>
```