

Data Validation

- Data validation is the process of ensuring that computer input is clean, correct, and useful.
- Typical validation tasks are:
 - has the user filled in all required fields?
 - has the user entered a valid date?
 - has the user entered text in a numeric field?
- Validation can be defined by many different methods, and deployed in many different ways.
 - 1. Server side validation** is performed by a web server, after input has been sent to the server.
 - 2. Client side validation** is performed by a web browser, before input is sent to a web server.

HTML Constraint Validation

- HTML constraint validation is based on:
 - Constraint validation **HTML Input Attributes**
 - Constraint validation **CSS Pseudo Selectors**
 - Constraint validation **DOM Properties and Methods**

Constraint Validation HTML Input Attributes

Attribute	Description
disabled	Specifies that the input element should be disabled
max	Specifies the maximum value of an input element
min	Specifies the minimum value of an input element
pattern	Specifies the value pattern of an input element
required	Specifies that the input field requires a element
type	Specifies the type of an input element

HTML Input Attributes Cont...

- The disabled Attribute
 - The **disabled** attribute specifies that the input field is disabled.
 - A disabled element is un-usable and un-clickable.
 - Disabled elements will not be submitted.

HTML Input Attributes Cont...

- The min and max Attributes
 - The min and max attributes specify the minimum and maximum value for an `<input>` element.
 - The min and max attributes work with the following input types: number, range, date, datetime, datetime-local, month, time and week.

HTML Input Attributes Cont...

- The pattern Attribute
 - The pattern attribute specifies a regular expression that the <input> element's value is checked against.
 - The pattern attribute works with the following input types: text, search, url, tel, email, and password.

Regular Expression

Brackets

Brackets are used to find a range of characters:

Expression	Description
[abc]	Find any character between the brackets
[^abc]	Find any character NOT between the brackets
[0-9]	Find any digit between the brackets
[^0-9]	Find any digit NOT between the brackets
(x y)	Find any of the alternatives specified

Regular Expression Cont...

Metacharacters

Metacharacters are characters with a special meaning:

Metacharacter	Description
.	Find a single character, except newline or line terminator
\w	Find a word character
\W	Find a non-word character
\d	Find a digit
\D	Find a non-digit character
\s	Find a whitespace character
\b	Find a match at the beginning/end of a word

Regular Expression Cont...

- Quantifiers

Quantifier	Description
n^+	Matches any string that contains at least one n
n^*	Matches any string that contains zero or more occurrences of n
$n?$	Matches any string that contains zero or one occurrences of n
$n\{X\}$	Matches any string that contains a sequence of X n 's
$n\{X,Y\}$	Matches any string that contains a sequence of X to Y n 's
$n\{X,\}$	Matches any string that contains a sequence of at least X n 's
$n\$$	Matches any string with n at the end of it
n	Matches any string with n at the beginning of it
$?=n$	Matches any string that is followed by a specific string n
$?!n$	Matches any string that is not followed by a specific string n

Examples:

- Numeric - [0-9]
 - [0-9] matches single-digit numbers 0 to 9
 - [1-9][0-9] matches double-digit numbers 10 to 99
 - 000..255: `^([01][0-9][0-9]|2[0-4][0-9]|25[0-5])$`
- Float Number - `[-+]?[0-9]*\.[0-9]*`
- IP Address - `\d{1,3}\.\d{1,3}\.\d{1,3}\.\d{1,3}`
- E-mail ID: `\b[A-Z0-9._%+-]+@[A-Z0-9.-]+\.[A-Z]{2,4}\b`
- Mobile No: ???????
- Mobile No: `^(\\+\\d{1,3}[-]?)?\\d{10}$`

HTML Input Attributes Cont...

- The maxlength Attribute
 - The **maxlength** attribute specifies the maximum allowed length for the input field

HTML Input Attributes Cont...

- The required Attribute
 - The required attribute is a Boolean attribute.
 - When present, it specifies that an input field must be filled out before submitting the form.
 - The required attribute works with the following input types: text, search, url, tel, email, password, date pickers, number, checkbox, radio, and file.

HTML Input Attributes Cont...

- Type:
 - Text
 - Password
 - Date
 - E-mail

HTML Input Attributes Cont...

- The autocomplete Attribute
 - The autocomplete attribute specifies whether a form or input field should have autocomplete on or off.
 - When autocomplete is on, the browser automatically complete values based on values that the user has entered before.

Required Fields

- The function below checks if a field has been left empty. If the field is blank, an alert box alerts a message, the function returns false, and the form will not be submitted:
- ```
function validateForm()
{
var x=document.forms["myForm"]["fname"].value;
if (x==null || x=="")
{
alert("First name must be filled out");
return false;
}
}
```

# E-mail Validation

- The function below checks if the content has the general syntax of an email.
- This means that the input data must contain an @ sign and at least one dot (.). Also, the @ must not be the first character of the email address, and the last dot must be present after the @ sign, and minimum 2 characters before the end:
- ```
function validateForm()
{
var x=document.forms["myForm"]["email"].value;
var atpos=x.indexOf("@");
var dotpos=x.lastIndexOf(".");
if (atpos<1 || dotpos<atpos+2 || dotpos+2>=x.length)
{
alert("Not a valid e-mail address");
return false;
}
}
```


Registration Form

User id: Required and must be of length 5 to 12.

Password: Required and must be of length 7 to 12.

Name: Required and alphabates only.

Address: Optional.

Country: Required. Must select a country.

ZIP Code: Required. Must be numeric only.

Email: Required. Must be a valid email.

Sex: ☐ Male ☐ Female Required.

Language: ☒ English ☐ Non English Required.

About:

Optional.

Submit