Web Technologies Laboratory 03

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Aim: Client-side Form Validations using JavaScript, DOM real-time update, JQuery to develop Ajax based applications.

Aim: Write a program to perform following form validations using JavaScript: a)

All fields mandatory,

b) Phone number, Email Address, Zip code Validation etc.
Include JavaScript to access and manipulate Document Object Model (DOM) objects in an HTML web page.
Include JQuery to develop to develop your application as an Ajax based application.

Objectives:

1. To understand what is form validation.
2. To learn basic functioning of DOM objects.
3. To learn how to apply various techniques to implement it.

Theory:

1. Different types of form validations.

Input validation techniques fall into three categories:

- Server-side Validation. With server-side validation, all form information entered by the user is sent to the server to be validated upon form submittal • Client-side Validation
- Real-time Validation.

2. HTML Document Object Model.

The DOM defines a standard for accessing documents: "The W3C Document Object Model (DOM) is a platform and language-neutral interface that allows programs and scripts to dynamically access and update the content, structure, and style of a document."

3. What is JQuery? Write various JQuery Selectors.

jQuery selectors are used to "find" (or select) HTML elements based on their name, id, classes, types, attributes, values of attributes and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors. All selectors in jQuery start with the dollar sign and parentheses: $().

Selector	Example	Description
:enabled	$(":enabled")	Select all enabled input elements

:disabled	$(":disabled")	It will select all disabled input elements
:selected	$(":selected")	It will select all selected input elements
:checked	$(":checked")	It will select all checked input elements

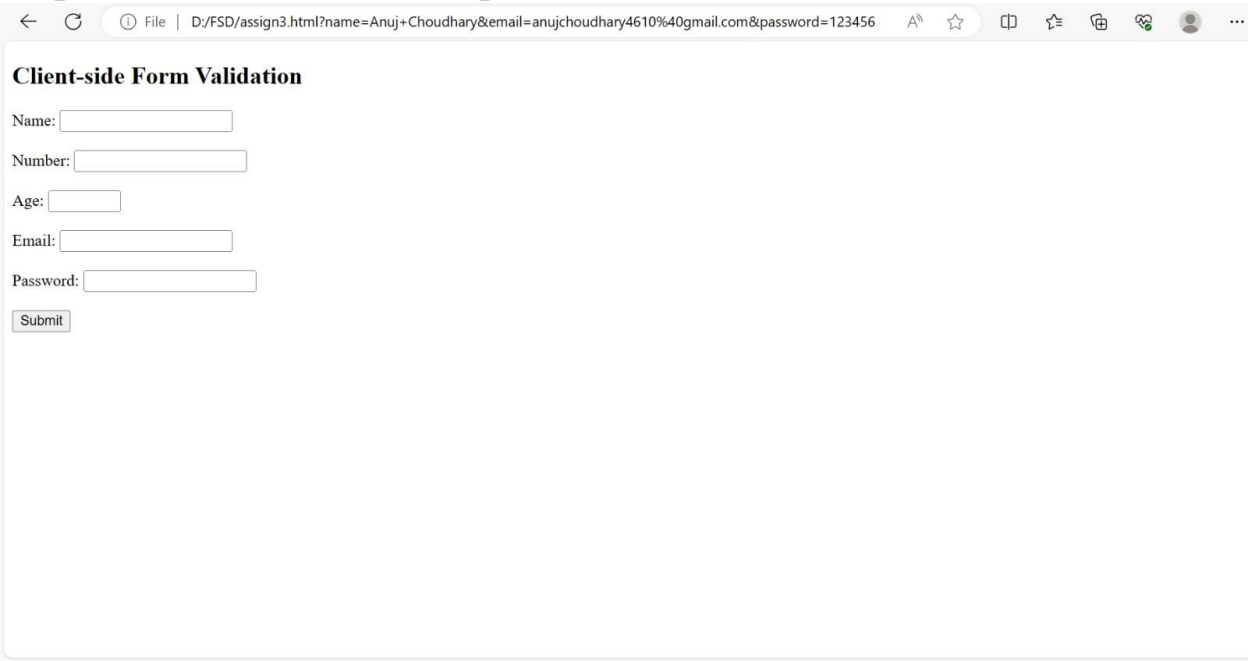
FAQ:

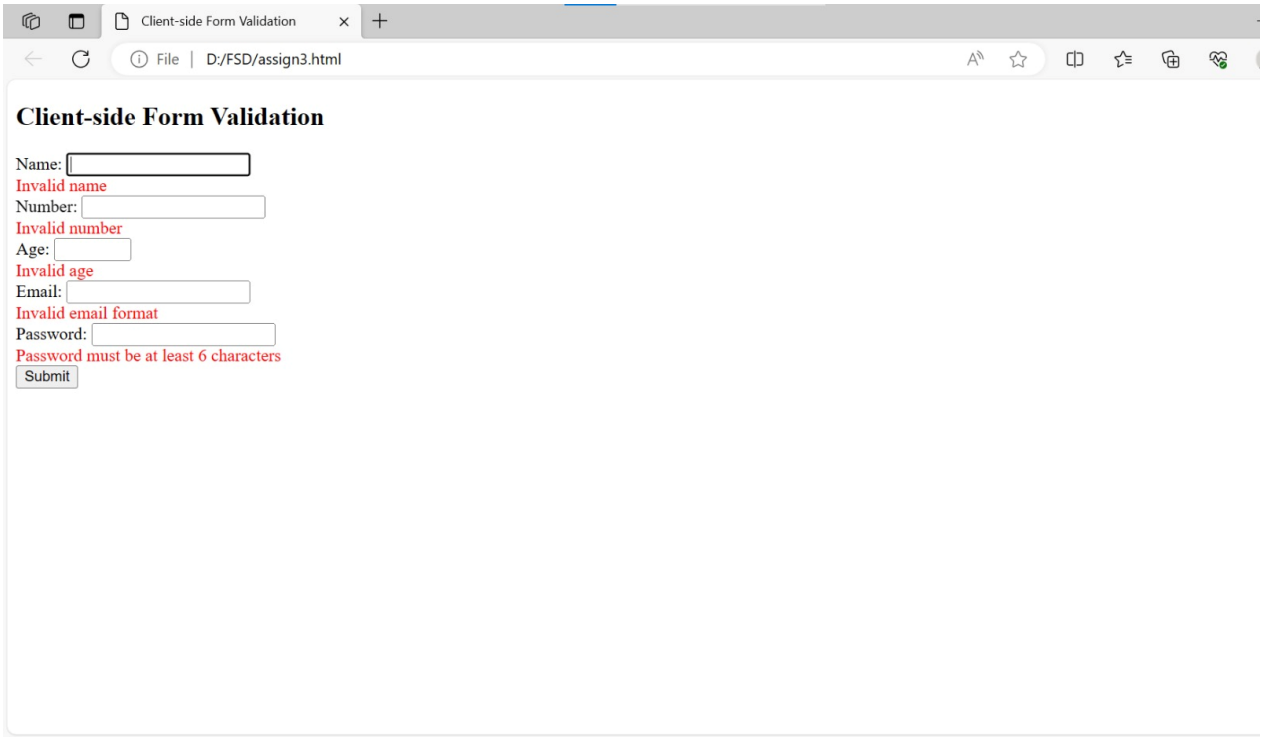
1. **Write 3 reasons why Form validations are important.**
   Form validation is required to prevent online form abuse by malicious users. Improper validation of form data is one of the main causes of security vulnerabilities. It exposes your website to attacks such as header injections, cross-site scripting, and SQL injections.

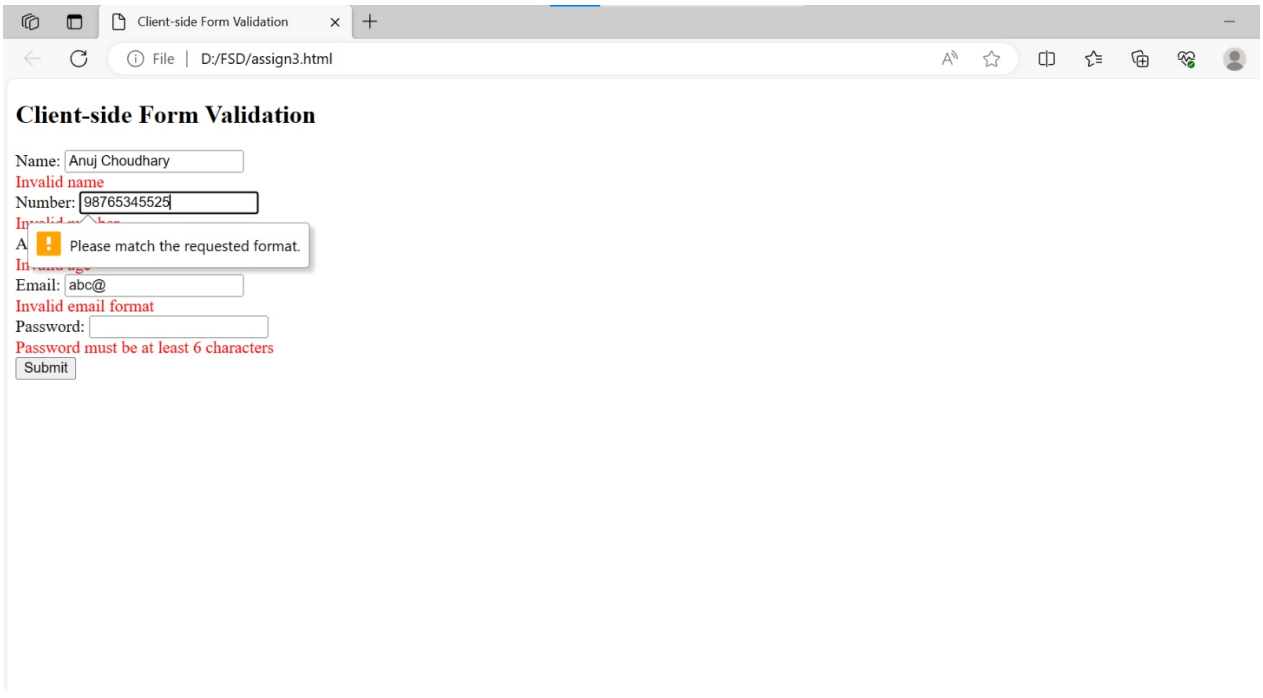
2. **Give an example of how to modify an attribute value using DOM.**
   You can use the setAttribute() method in either case. It accepts two parameters: the attribute name and the attribute value. The attribute name has to be a string, and it will be converted to all lowercase. The attribute value is also a string, and any non-string values will be automatically converted to a string.

3. **What is jQuery Ajax?**
   AJAX = Asynchronous JavaScript and XML. In short; AJAX is about loading data in the background and display it on the webpage, without reloading the whole page. Examples of applications using AJAX: Gmail, Google Maps, Youtube, and Facebook tabs. You can learn more about AJAX in our AJAX tutorial.

Output: Screenshots of the output to be attached.




Client-side Form Validation
File | D:/FSD/assign3.html
Client-side Form Validation
Name:
Invalid name
Number:
Invalid number
Age:
Invalid age
Email:
Invalid email format
Password:
Password must be at least 6 characters
Submit


Client-side Form Validation
File | D:/FSD/assign3.html
Client-side Form Validation
Name: Anuj Choudhary
Invalid name
Number: 98765345525
Please match the requested format.
Email: abc@
Invalid email format
Password:
Password must be at least 6 characters
Submit

Problem Statement:

Write a program to design Student registration form by using HTML, CSS having following fields: Username, Email, Phone number, Password, Confirm Password and write external javascript code to achieve following validations

- Fields should not be empty. If spaces are entered those should be considered empty
- Phone number must accept only numeric values and it should be 10 digits
- Password length must be at least 7 and it should contain at least one capital letter, one digit and one special character from the set (&,$,#@)
- Value entered in password field and confirm password fields must match

Email address must contain @ sign and a ., there should be few letters before the @ sign, there should be three letters between @ sign and a . There must be 3 or 2 letters after the . (hint: Use regular expression)

Write a client-side script with JavaScript to access and manipulate Document Object Model (DOM) objects in an HTML web page. Develop a dynamic web page using javascript and DOM. Make use of the following for accessing elements

- getElementById, getElementsByTagName,getElementsByClassName
- Change the text using innerHTML property
- Change the CSS properties like color, position of a particular element on the page
- Change the image source after clicking on a button
- Add a text node and attach it to a parent node
- Delete a node

Include jQuery to perform following operations:

- Change button text using jQuery.
- Set background-image using jQuery CSS property.
- Access HTML form data using jQuery.
- Add attribute using jQuery

Use this reference link for jQuery : https://www.w3resource.com/jqueryexercises/part1/index.php