FORM VALIDATION

FORM

Form allow you to collect information form visitors, and JavaScript can help you get the right information from them. Since JavaScript was created, it has been used to enhance and validate forms. Enhancements make forms easier to use. Validation checks whether the user has provided the right information before submitting the form (if not, it provides feedback to the user).

THE FORM ELEMENT

DOM nodes for form controls have different properties, methods, and events than some of the other elements you have met so far. Here are some you should note for the element.

Property	Description
action	The url the form is submitted to
method	If it is to be sent via GET or POST
name	Rarely used, more common to select form by the value it its id attribute
elements	A collection of the elements in the form that users can interact with. They can be accessed Bia index numbers or values of their name attributes.

Method	Description
submit()	This has the same effect as click the submit button
reset( )	Resets the form to the initial values it had when the page loaded.

- The DOM methods such as getElementByld(),getElementsByTagName(),and querySelector(), are the most popular techniques for accessing both the element and the form controls within any form. However, the document object also has something called the forms collection. The forms collection holds a reference to each of the elements that appear on a page.

- Each item in a collection is given an index number (a number starting at 0, like an array). This would access the second form using its index number: document.forms[1]

- You can also access a form using the value of its **name** attribute. The following would select a form whose name attribute has a value of login:
    - **document.forms.login**
- Each <form> element in the page also has an **elements** collection. It holds all of the form controls within that form. Each item in the **elements** collection can also be accessed by index number or by the value of its name attribute.

- The following would access the second form on the page and then select the first form control within it:

    document.forms[l].elements[0];

- The following would access the second form on the page, then select the element whose name attribute had a value of password from that form:

    document.forms[l].elements.password;

- Note: index numbers in a collection of elements can change if the markup of a page is altered. So, use of index numbers ties a script to the HTML markup (-it does not achieve a separation of concerns).

FORM VALIDATION

Validation is the process of checking whether a value meets certain rules (for example, that a password has a minimum number of characters). It lets you tell users if there is a problem with the values they entered so that they can correct the form before they resubmit it. This has three key advantages:

- You are more likely to get the information you need in a format you can use.
- It is faster to check values in the browser than it is to send data to the server to be checked.
- It saves resources on the server.

Form data validation comes in a couple different forms. Data can be validated at the **field level** when it is entered by the user, and it can be validated at the **form level** (i.e. all fields) when the form is submitted or printed. These different types of validation have different, complimentary purposes and for a complete form design it's a good practice to use a combination of the two methods.

Field Level Validation

- The purpose of Field Level Validation is to verify that the input to a single field is entered correctly. For example, for an email field, the job of the validation script is to make sure the entered text matches the standard email format, i.e., two sets of strings separated by an "@" symbol. The most common way to implement a text pattern test like this is to use a Regular Expression.

- In fact, this example is fairly typical. Most of the time validation scripts are used to match input text against a pattern using a regular expression. But of course, this is not the only way to implement a validation script and it's not the only thing a validation script can be used for.

- After testing the input data the Validate Script can completely reject an entered value, alert the user to a problem, and even modify the entered value before it is committed to the field. It can also be used creatively for non-validation purposes. So there is quite a bit of flexibility in how this event can be used.

Form level Validation

- Form level validation is used to ensure all the required form data is filled in, and/or to make sure that any data dependencies between fields are met before the form is submitted. Usually, this type of validation uses a much simpler data test than field level validation because it's assumed that field level validation guarantees any entered data is correct.

- If you've filled out a form on a web page then you've seen this in action. On a web page, the required fields are usually indicated with a red "*". And if you don't fill one out, then on submit you'll get the same page back with a warning message at the top telling you to fill out the marked fields.

Automatic HTML Form validation

The **required** attribute allows to perform validation automatically by the browser. It does not allow empty field.

Data validation

- ensure clean, correct and useful user input.
- Checks if all required fields are filled
- Checks if user has enter valid data and format.

Validation can be performed in two ways.

1. Server side validation: is performed by 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

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 an element
type	Specifies the type of an input element

Please refer given link to explore examples on form validation
https://www.the-art-of-web.com/html/html5-form-validation/