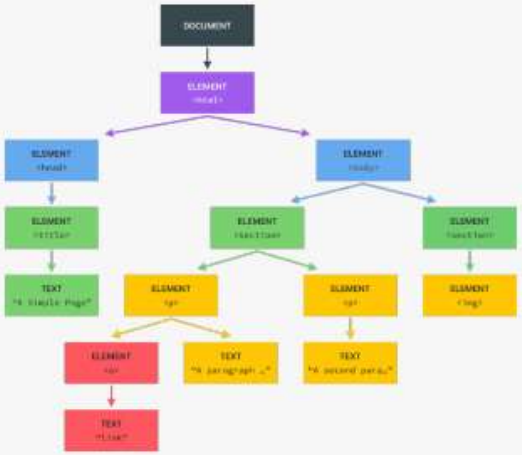
WHAT IS THE DOM?

DOM

DOCUMENT OBJECT MODEL: STRUCTURED REPRESENTATION OF HTML DOCUMENTS. ALLOWS JAVASCRIPT TO ACCESS HTML ELEMENTS AND STYLES TO MANIPULATE THEM.

Tree structure, generated by browser on HTML load



Change text, HTML attributes, and even CSS styles

WHAT IS THE DOM?

The **DOM** is a W3C (World Wide Web Consortium) standard.

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."

The W3C **DOM** standard is separated into 3 different parts:

- **Core DOM** - standard model for all document types
- **XML DOM** - standard model for XML documents
- **HTML DOM** - standard model for HTML documents

THE DOM PROGRAMMING INTERFACE

- HTML DOM methods are **actions** you can perform (on HTML Elements).
- HTML DOM properties are **values** (of HTML Elements) that you can set or change.

- The HTML DOM can be accessed with JavaScript (and with other programming languages).
- In the DOM, all HTML elements are defined as **objects**.
- The programming interface is the properties and methods of each object.
- A **property** is a value that you can get or set (like changing the content of an HTML element).
- A **method** is an action you can do (like add or deleting an HTML element).

WITH THE HTML DOM, JAVASCRIPT CAN ACCESS AND CHANGE ALL THE ELEMENTS OF AN HTML DOCUMENT.

The **HTML DOM** is an **Object Model** for **HTML**. It defines:

- HTML elements as **objects**
- **Properties** for all HTML elements
- **Methods** for all HTML elements
- **Events** for all HTML elements

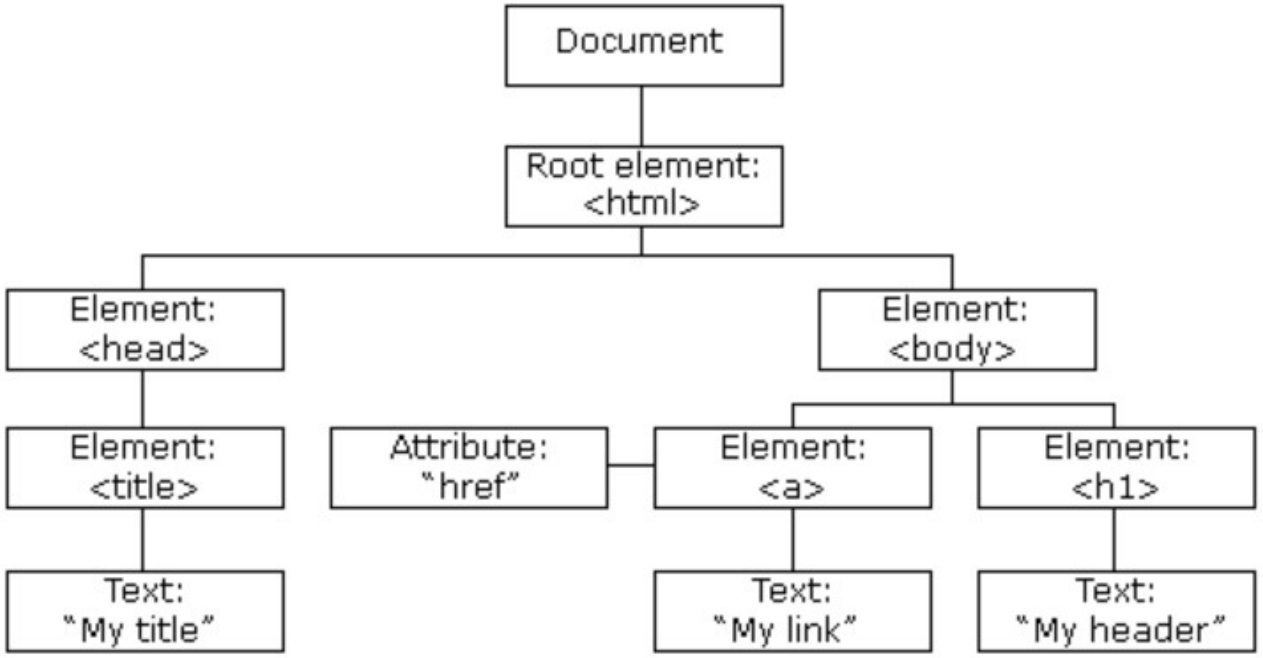
The HTML DOM is the specific object model for HTML documents.

The **HTML DOM** is an **API** (Programming Interface) for **JavaScript**:

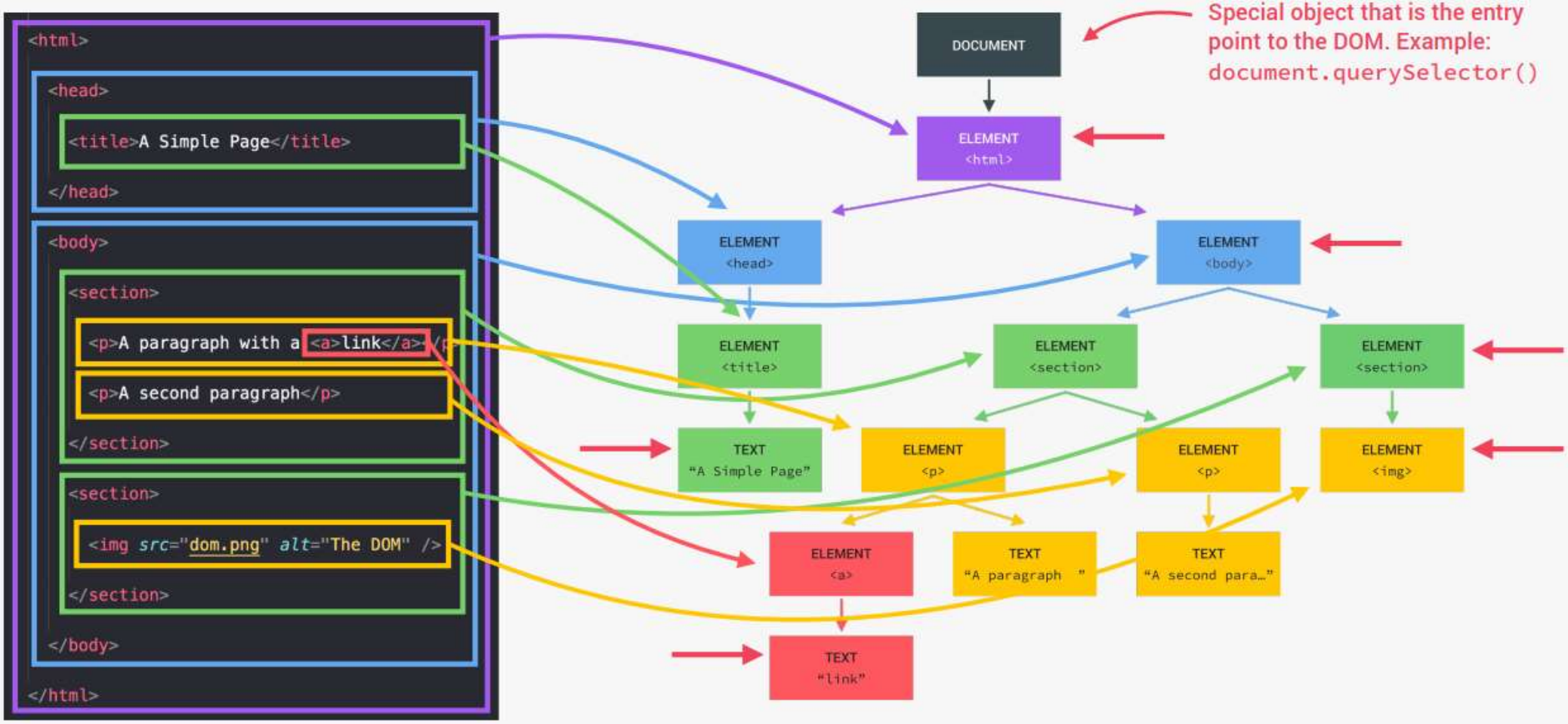
- JavaScript can add/change/remove HTML elements
- JavaScript can add/change/remove HTML attributes
- JavaScript can add/change/remove CSS styles
- JavaScript can react to HTML events
- JavaScript can add/change/remove HTML events

the DOM API is the specific set of methods and properties that allow JavaScript to interact with the HTML DOM.

WHEN A WEB PAGE IS LOADED, THE BROWSER CREATES A DOCUMENT OBJECT MODEL OF THE PAGE.
THE HTML DOM MODEL IS CONSTRUCTED AS A TREE OF OBJECTS:



THE DOM TREE STRUCTURE



DOM !== JAVASCRIPT 🧐

DOM Methods and Properties for DOM Manipulation

👎

NOT PART OF

JS

For example
`document.querySelector()`

ecma INTERNATIONAL

API: Application Programming Interface

WEB APIs

DOM Methods and Properties

Timers

Fetch

👍

CAN INTERACT WITH

JS

UNLEASHING THE POWER OF JAVASCRIPT: USING THE OBJECT MODEL TO CREATE DYNAMIC HTML

With the object model, JavaScript gets all the power it needs to create dynamic HTML:

There are a couple of ways to do this:

- JavaScript can **change** all the **HTML elements** in the page
- JavaScript can **change** all the **HTML attributes** in the page
- JavaScript can **change** all the **CSS styles** in the page
- JavaScript can **remove** existing **HTML elements** and **attributes**
- JavaScript can **add** new **HTML elements** and **attributes**
- JavaScript can **react** to all existing **HTML events** in the page
- JavaScript can **create** new **HTML events** in the page