HOW DO BROWSERS RENDER WEBPAGES?

Nikhil Vallore

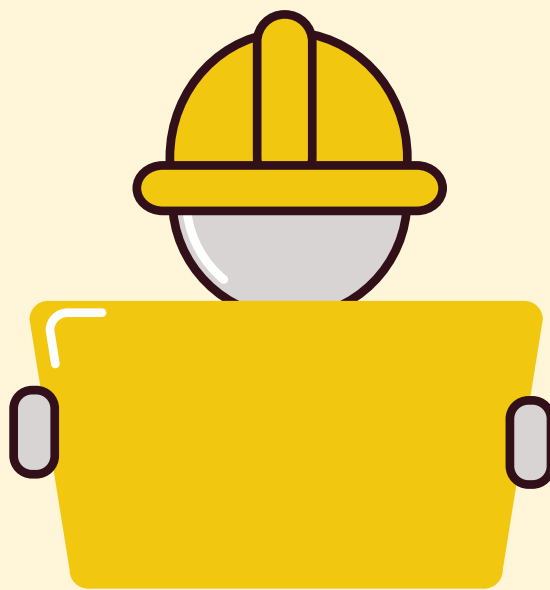*Mentor | Software Engineer*

1. **DOM** CONSTRUCTION

In this step, HTML is transformed into DOM following a sequence of steps.

bytes -> characters -> tokens -> nodes -> object model
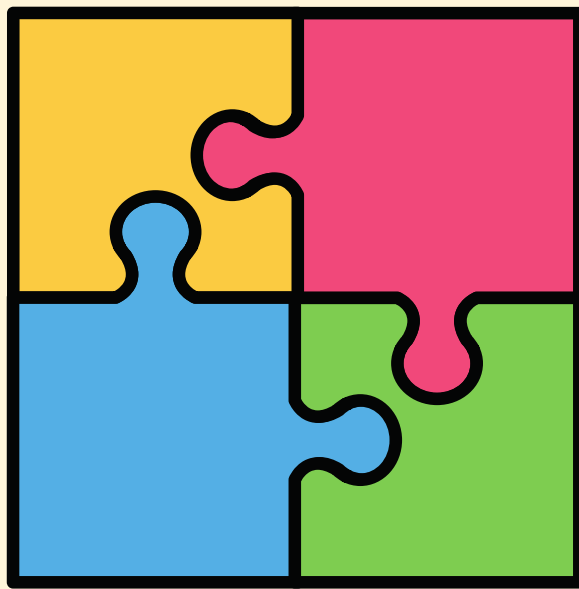
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2. CSSOM CONSTRUCTION

CSS markup is transformed into CSS Object Model by following the same sequence of steps as DOM.

3. RENDERER TREE CONSTRUCTION

DOM and CSSOM are combined together to form a Render tree which contains the nodes which have to be displayed on the page.

4. LAYOUT

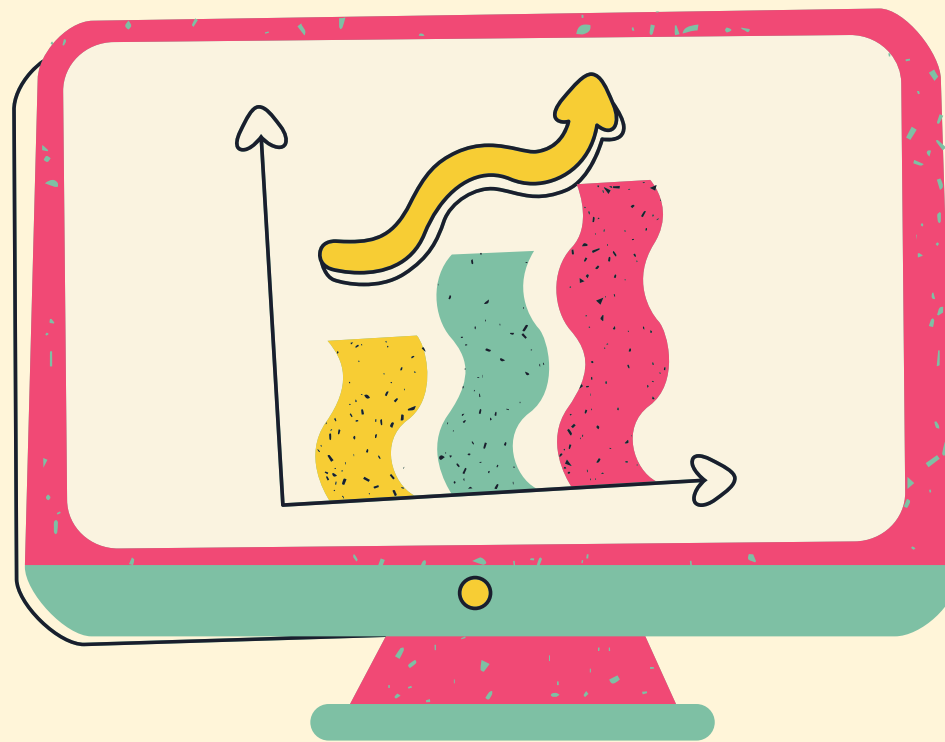**The layout phase can be said as a geometry phase, where the exact position of the nodes and their size respective to the viewport of the browser is computed.**

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5. PAINTING

As we know the nodes, their **styling,** and their **geometry**, now all this information is used to **render** the nodes from the render tree to **actual pixels** on the screen.

The above steps are followed to display the page on the **screen** and all these happen in a **fraction** of seconds.

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and Keep Sharing!!

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