**How does the browser actually render a website.**

1. Components which makes up a browser are

“Bindings “–This deals with Operating System,

“Rendering “= Actually constructing the website with the help of HTML using “parsing”, ”layout”, ”painting”.

“JAVASCRIPT Virtual Machine”

1. High Level Flow – This method **parse the HTML and CSS** separately and follows with **render** **tree** depending on which browser and then into the **layout** which put it into the position of where to do it in the browser and **painting** helps in with the graphics and provides a visual output.
2. Render Tree is multiple tree of four of them like

“Render object”-refers to the DOM node

“Render Style” – styles applied to the DOM elements.

“Render Layout” –This helps in putting the elements in the right order and absolute position.

“Line box” – Wrapping text based on how to lay out based on font size.

Render tree doesn’t include non-visual elements like head, title, script, and nodes hidden via display none.

1. Parsing flow – This flow which consists of Tokenization turns the text into tokens. Further it make it to Parse Tree and then to DOM Tree .Render object which has reference of DOM object it’s the visual output which contains geometric info and can layout and paint.
2. Layout transverse the render tree and nodes position and it’s size ,then it involves in the layout of further small nodes(children).Paint will take out the laid out render trees, create layers to get the absolute position. Painting produces a bitmap from each layer which is uploaded to GPU as textures, which then composites the textures into image to render the screen.

The above points specify how the browser renders a website.