1. List 5 difference between Browser JS(console) and nodejs.

Browser JS:

* Javascript is a programming language that is used for writing scripts on the website.
* Javascript can only be run in the browsers.
* It is basically used on the client-side.
* Javascript can run in any browser engine as like JS core in safari and Spidermonkey in Firefox.
* Some of the javascript frameworks are RamdaJS, TypedJS, etc.

Node JS:

* NodeJS is a Javascript runtime environment.
* We can run javascript outside the browser with the help of nodejs.
* It is mostly used on the server-side.
* V8 is the Javascript engine inside of node.js that parses and runs Javascript.
* Some of the Nodejs modules are Lodash, express etc. These modules are to be imported from npm.

2. How does the browser actually renders a webpage.

Step 1 : Start to parse the HTML.

When the browser begins to receive the HTML data of a page over the network, it immediately sets its parser to work to convert the HTML into a Document Object Model (DOM). The first step of this parsing process is to break down the HTML into tokens that represent start tags, end tags, and their contents. From that it can construct the DOM.

Step 2 : Fetch external resources.

When the parser comes across an external resource like a CSS or JavaScript file, it goes off to fetch those files. The parser will continue as a CSS file is being loaded, although it will block rendering until it has been loaded and parsed (more on that in a bit).

Step 3: Parse the CSS and build the CSSOM

Similar to HTML files and the DOM, when CSS files are loaded they must be parsed and converted to a tree - this time the CSSOM. It describes all of the CSS selectors on the page, their hierarchy and their properties.

Step 4: Execute the javascript

Step 5: Merge DOM and CSSOM to construct the render tree

The render tree is a combination of the DOM and CSSOM, and represents everything that will be rendered onto the page.

Step 6: Calculate layout and paint

Now that we have a complete render tree the browser knows what to render, but not where to render it. Therefore the layout of the page (i.e. every node's position and size) must be calculated. The rendering engine traverses the render tree, starting at the top and working down, calculating the coordinates at which each node should be displayed. Once that is complete, the final step is to take that layout information and paint the pixels to the screen.

3. Execute the below code and write your description.

a. typeof(1)

typeof is used to find the datatype of an given data. typeof(1) returns number.

b. typeof(1.1)

typeof(1.1) returns number because 1.1 is a float. As float belongs to a category number.

c. typeof(‘1.1’)

typeof(‘1.1’) returns string.

d. typeof(true)

typeof(true) returns Boolean.

e. typeof(null)

typeof(null) returns object.

f. typeof(undefined)

typeof(undefined) returns undefined.

g. typeof([])

typeof([]) returns object.

h. typeof({})

typeof({}) returns object.

i. typeof(NaN)

typeof(NaN) returns number.