# DAY 02

1. **List 5 difference between Browser JS (console) v Nodejs**

Ans

JAVASCRIPT:

* 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 is capable enough to add HTML and play with the DOM.
* Javascript can run in any browser engine as like JS core in safari and Spidermonkey in Firefox.

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.
* Nodejs does not have capability to add HTML tags.
* V8 is the Javascript engine inside of node.js that parses and runs Javascript.

1. **watch & summary 5 points –**

**How does Browser actually render the website:**

Ans

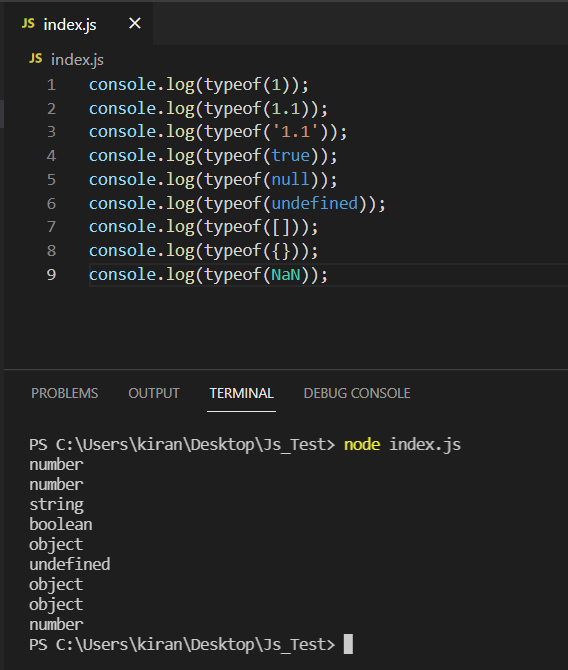
* Parse HTML
  + Tokenizer converts text into tokens which creates a parse tree.
  + Parse tree resultant html code after putting together all the missing tags in the code we enter
  + Parse tree output is converted into DOM tree which is what interacts with the web page.
* Parse CSS
  + Creation of cssom to interact with webpage
  + Cssom created by using cssrules, declarations etc.
* Render/Frame tree
  + Combination of dom and cssom = DOM+CSSOM
  + Actual representation of what's shown on the screen
  + Non visual elements like head, script, title are not included in render tree
  + Render tree is a combination of multiple trees.
* Layout
  + DOM will traverse through the render tree and layouts the trees in it.
  + It will layout children at first.
  + Instead of read and write statements mixing up, we can club all read statements first and then club all write statement next will render the webpage faster
* Paint
  + All information from render tree taken and data shown in the layout that have been created
  + Create layers ----> incremental painting process → 12 phases
  + Creates layers from render objects
  + Control will produce bitmap from each layer, bitmap uploaded into gpu as texture, texture converted into final image

1. **Read**
2. **Execute the below code**

* typeof(1)
* typeof(1.1)
* typeof('1.1')
* typeof(true)
* typeof(null)
* typeof(undefined)
* typeof([])
* typeof({})
* typeof(NaN)

Ans

Given on the next page

****