1. List 5 difference between Browser JS(console) VS Node.js:

A node and web browser, both executes JavaScript, but Node does that in server side and browsers in client side. Node uses the same JavaScript engine which is the backbone of Chrome, but still we can find few differences between Node and Browser.

| **Node** | **Browser JS(console)** |
| --- | --- |
| * Node doesn't have a predefined "window" object because it doesn't have a window to draw anything. | * "Window" is a predefined global object which has functions and attributes that have to deal with window that has been drawn. |
| * "Location" object is related to a particular URL; that means it is for page specific. So, node doesn't require that. | * "Location" is another predefined object in browsers that has all the information about the URL we have loaded. |
| * Node doesn't have "document" object also, because it never have to render anything in a page. | * "Document", which is also another predefined global variable in browsers, has the html which is rendered. |
| * Node has "global", which is a predefined global object. It contains several functions that are not available in browsers, because they are needed for server side works only. | * Browsers may have an object named "global", but it will be the exact one as "window". |
| * "require" object is predefined in Node which is used to include modules in the app. | * Browsers don't have "require" predefined. You may include it in your app for asynchronous file loading. |
| * In Node everything is a module. You must keep your code inside a module. | * Moduling is not mandatory in client side JavaScript, i.e. in browsers. |
| * Node is headless. | * Browsers are not headless. |
| * Node processes request object. | * Browsers processes response objects. |

As both of them are JavaScript executor, and Node uses the JavaScript engine of a browser (Chrome), so differences are not much there. It is just the Node wrapper which has been written on top of JavaScript V8 Runtime engine, which is deleting few objects and also including some according to the requirement of Node.

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1. Execute the below code and write your description in txt file
   1. typeof(1)
   2. typeof(1.1)
   3. typeof('1.1')
   4. typeof(true)
   5. typeof(null)
   6. typeof(undefined)
   7. typeof([])
   8. typeof({})
   9. typeof(NaN)

In JavaScript the typeof() is used for determining the datatypes, So the datatypes of a to i are respectively.

**Output:**

number

number

string

boolean

object

undefined

object

object

number

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1. watch & summary 5 points -<https://www.youtube.com/watch?v=SmE4OwHztCc&ab_channel=JSConf>

* Enter the url and hit enter (ex: [www.google.com](http://www.google.com)).
* The browser checks Domain Name System (DNS) for IP Add.
* The browser initiates a tcp connection with the server.
* The browser sends the http request to the web server.
* The server handles the request and sends back a response.
* The browser displays the html content.(parsing/rendering)

Building a DOM tree

Building a ccsom tree

Js compilation

Building the accessibility tree

* Render

Style

Layout

Paint

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