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

|  |  |  |
| --- | --- | --- |
|  | Javascript is a programming language that is used for writing scripts on the website. | NodeJS is a Javascript runtime environment. |
|  | Javascript can only be run in the browsers. | We can run Javascript outside the browser with the help of NodeJS. |
|  | It is basically used on the client-side. | It is mostly used on the server-side. |
|  | Javascript can run in any browser engine as like JS core in safari and Spidermonkey in Firefox. | V8 is the Javascript engine inside of node.js that parses and runs Javascript. |
|  | Javascript is used in frontend development. | Nodejs is used in server-side development. |
|  | Some of the javascript frameworks are RamdaJS, TypedJS, etc. | Some of the Nodejs modules are Lodash, express etc. These modules are to be imported from npm. |
|  | It is the upgraded version of ECMA script that uses Chrome’s V8 engine written in C++. | Nodejs is written in C, C++ and Javascript. |

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

* Parsing HTML and CSS we get DOM tree. So that CSS and HTML are combined DOM tree is rendered.
* There are four trees formed

1. Layers
2. Inline boxes
3. Render objects
4. Render styles

* Layout computes where the elements will appear on the page based on the page based on its relationship.
* Taking into account all the CSS the painting will actually produce an image of the layouts giving out the visual output as expected on the page.
* Inline-CSS -> Speeds up first painting time, External JS and CSS can block the flow for a while.

4. Execute the below code and write your description in txt file

console.log(typeof(1)); --> number

console.log(typeof(1.1)); --> number

console.log(typeof('1.1')); --> string

console.log(typeof(true)); --> boolean

console.log(typeof(null)); --> object

console.log(typeof(undefined)); --> undefined

console.log(typeof([])); --> object

console.log(typeof({})); --> object

console.log(typeof(NaN)); --> number

5. Read what is prototype

* + All JavaScript objects inherit properties and methods from a prototype.
  + The Object.prototype is on the top of the prototype inheritance chain.
  + Sometimes you want to add new properties (or methods) to all existing objects of a given type.
  + Sometimes you want to add new properties (or methods) to an object constructor.
  + The JavaScript prototype property allows you to add new properties to object constructors.
  + The JavaScript prototype property also allows you to add new methods to objects constructors.