Frontend Interview Bible

This document is broken into 9 Sections.

Philosophy behind not adding answers in the document. Because

1. if we learn from one source, our exploration skills degrade, and our mind becomes lazy. We think that I will read it later and later never comes.
2. Answers given by might not make sense to you. Due to lack of information included which depends on the experience level of someone.
3. If we search for something to learn, our mind retains that thing for a large amount of time.

How to make most of this guide

1. Do not skip any section, Once you complete a section only move to the next section.

2. How to search answer for any question:

Step 1: Copy the question.

Step 2: Open google.com

Step 3: Paste the question in search bar

Step 4: Open first 5 Links in the new tab. (This will prepare you to foresee all possible concepts for any particular topic)

Step 5: Read from all 5 links (this is mandatory)

Step 6: After reading, write the summary anywhere (notes, online blogs wherever you like)

Step 7: Practice code examples at least 3 examples of any concepts.

HTML

1. What does H, T, M , L stand for in HTML and explain each word in detail.

2. Is HTML case sensitive or case in-sensitive?

3. Explain **<head>** tag.

4. How can I **refresh** my page every 60 seconds using HTML?

5. What are **inline** and **block** elements?

6. What is a table tag? And what is the importance of table tag.

7. What are different ways to take **input** from users?

8. How can you make an **upload file** button?

9. How can you **restrict** users to only select a .jpg file when a file upload picker is opened?

10. What does **rowspan** and **colspan** do?

11. Explain **Marquee** tag and its usage.

12. Semantic and Non Semantic Elements.

13. What is the significance of the **<noscript>** tag?

14. Describe the importance of the <**docttype**> declaration in HTML.

15. What is a picture tag and its advantages?

16. What is **srcset** attribute?

17. Explain loading=lazy and loading =eager

18. How can you change the image in the title bar?

CSS

1. What is CSS?

2. What is **inheritance** in CSS?

3. Explain **specificity** rules in CSS?

4. Explain **4 ways** to import CSS in an HTML file.

5. Can I use <style> tag in body instead of Head?

6. Explain **!importan**t. Can we use it !important in all CSS rules

7. How can you center a div in a webpage, horizontally and vertically. **Give 3 Possible ways.**

8. Explain **Positioning** properties.

9. What is the difference between **sticky** and **fixed**?

10. What is difference between opacity:0, visibility:hidden and display:none

11. How can I only make horizontal scroll, and disable vertical scroll.

12. Explain box model.

13. What does **calc()** function do?

14. Explain **rem** vs **em**.

15. What is the default value of rem.

16. Explain how I can change 1rem = 20px.

17. What are the benefits of using **rem**.

18. Explain **clamp** function

19. How can I show … when some text is overflowing a container.

20. How can I **restrict** the number of lines using css.

21. How can I animate height width using css

22. Rotate a div by 45 deg

23. Explain flex, and its properties.

24. How can I change the **cursor** using CSS.

25. How can I apply CSS to the first word of a paragraph using CSS.

26. How can I check if user devices support hover or not, and based on that apply CSS.

27. Explain **sibling** selectors.

28. Explain **clearfix** property.

29. Explain how z-index works in CSS.

30. What is the maximum number the z-index supports?

31. Explain background property.

32. What are different measurement units in CSS. Give at least 6 units.

33. Explain what does :has to in CSS.

34. What are vendor prefixes in CSS.

35. How can you hide a scrollbar in CSS.

36. What CSS properties you apply on a button which is disabled.

37. What are pseudo elements?

38. How can you give a border only to the left and right of a div.

39. Difference between outline and border.

40. Explain margin padding collapsing feature.

Javascript

Conceptual Questions:

1. Explain what is Javascript?
2. Is Javascript script single threaded or multithreaded. Explain in detail.
3. How can I add Javascript in my HTML code, give me 2 possible ways.
4. Can I add a script tag in the head element?
5. Does adding script tag in head element cause any problem?
6. What are async and defer attributes?
7. Explain data types in Javascript.
8. What is hoisting? Give examples.
9. What is closure? Give Examples
10. What is stale Closure. Give Examples
11. Explain currying, it's use case and its benefits
12. What is an IIFE?
13. Give 4 ways to create an IIFE.
14. What are operators in JS.
15. How can I check data type of variables in JS.

16. Explain Abstract Equality in Javascript. By Abstract Equality I mean ==.

17. How == is different from ===

18. Explain Execution Context

19. What is Lexical Scope

20. Explain this keyword

21. What is call bind and apply?

22. Explain what is the new Keyword.

23. What are prototypes in JS?

24. Explain difference between __proto__, prototype, [[prototype]]

25. What is prototypical inheritance? How it is different from classical inheritance.

26. What is the difference between var, let and const?

27. What are Symbols in JS?

28. What is the spread and rest concept in JS.

29. Explain destructuring.

30. Explain difference between || and ??

31. What is optional chaining?

32. What is functional programming?

33. What is the difference between reduce and reduceRight.

34. What are callbacks?

35. Explain inversion of control.

36. What are promises?

37. What are the different states of promises?

38. When does the finally block get called under promises?

39. How can I handle errors using try catch in JS.

40. What is tagged template literal.

41. How does this work inside the arrow function?

42. What is the difference between an arrow and normal function? Explain 7 Differences

43. Explain Sets. How they are different from arrays.

44. What are the arguments keywords present in all functions in javascript.

45. What is "use strict" and what it does.

46. How does the for...of loop differ from the for...in loop?

47. How does the async/await syntax simplify asynchronous code in JavaScript?

48. Explain the difference between map and filter.

49. What Map and Weak Map in Javascript?

50. What are weakRef in Javascript.

51. What is difference between setTimeout and requestAnimationFrame.

DOM Manipulation and Events

1.How does event delegation work in the context of JavaScript event handling?

2.Explain the differences between the DOMContentLoaded and load events.

3. How can you stop event propagation in JavaScript?

3. Describe the purpose of the addEventListener method and how it works.

4. What is the event object, and how is it used in JavaScript event handling?

5. Explain the differences between the onclick attribute and addEventListener for handling click events.

6. Explain the concept of bubbling and capturing in event propagation.

7.How can you simulate a click event using JavaScript?

8.Explain the differences between the keyup, keydown, and keypress events.

9. What is the purpose of the preventDefault method in JavaScript events?

10. Difference between querySelector and document.getElementsByClassName

Task based FE Design Question

These questions can be first solved using plain javascript. Then using any JS Library.

In such a question the interviewer tests the skills like how do you create components, what names you use and what folder structure you follow.

1. Find the time taken by a function in Javascript.
2. Implement Infinite Scroll Using Javascript
3. How can you clear all timeouts in Javascript?
4. Print numbers from 1 - 100 with a delay of 2 sec, and also Update the numbers in UI.
5. Show a dialog, when I click a button, make sure to handle the keyboard close, and outside close of dialog.
6. Make an expanded collapse div. (Accordion Implementation). Add relevant Animations.

7. How will you implement a star rating UI?

8. Create an input text, and show suggestions as user types. Create your own array of suggestions.

9. In The webpage, add background:yellow, to all text which are greater than 5 characters.

10. Implement a Kanban Board using Javascript.

11. You have an api, which gives some data, now you have shown all the data in the UI. Use any only hosting provider, host your own JSON and consume that JSON from your JS Code.

12. Build a calculator with basic arithmetic operations. Use only Plain JS.

13. Create a stopwatch.

14. Create a timer, once time is over show an alert.

15. Demonstrate usage of prompt and confirm box.

16. Using prompt take number from user, and based on that number print a triangle of *. Number given by the user denotes the number of rows in a triangle.

17. Move a div from left of the screen to the right of the screen.

18. Show a tooltip, on hover of a button. Make sure to give the user the ability to change tooltip position. Like left right top bottom.

19. Create a feature using which I can show notifications on my website. Like success, failure , info and warning. Just like a toast message.

    Notification should be auto dismissed after 3 seconds.
    There can be more than 1 notification in the screen at same time

20. Create tic-tac-toe game
21. How can you lazy load an image?

Polyfils

Polyfills are simply functions that are added on `prototype` of Constructor class, so that they can be available on all instances of the objects created by that particular constructor.

The purpose of polyfill is to support older browsers. Add new functionality in older browsers.

These days, in almost every interview you will encounter a question which demands to write a polyfill.

Below is the list of commonly asked polyfils by interviewers. There are more than 95% chances that if someone asks you to write a polyfill, that polyfill will be from the list below or must be related to the list below.

1. forEach polyfill.
2. Map polyfill.
3. Filter polyfill
4. Reduce polyfill
5. Some and Every function polyfill
6. Push and Pop polyfill
7. Slice and Splice polyfill
8. Call Bind and Apply polyfill
9. Promise.all polyfill
10. Debounce polyfill
11. Throttle polyfill
12. JSON.stringify polyfill

Machine Coding

1. You've given an array which contains some 0, your to write a function which moves all 0s to the right of the array.
2. You've an array in which each adjacent number is either +1 or -1, write a function to find the given number. Focus on efficiency.
   Example: [4,5,6,7,6,5,4] // Find index of 7 (from starting)
3. Write a function to shuffle an array.
4. Write a function which gives us a fibonacci sequence of a given number.
5. You have an array, which contains some bad numbers, bad numbers are denoted with -1, write a function to remove all bad numbers from the array.
6. Write a function to flatten a given array.
7. You have a string separated by a . (dot), write a function which converts it into an object. Last character will be added as a value
   Example: a.b.c.d.e output => {a : b: { c: { d: e} } }
8. Write a function which merges to given array.
9. Write a function which removes duplicates from array.
10.   Write a function which converts a given function into curry version of it.
   Example function sum(a,b) {} I should be able to call it like this: sum(2)(2).
11.   Given an array containing n distinct numbers taken from 0, 1, 2, ..., n, find the one that is missing.
12.   Write a function which deep-clones a given object.
13.   Write a function which deep-compares passed value.
14.   Write a function which implements ==

15. Write a function which works like a new Keyword.
16. Write a function which makes a chain of promise
17. Write a function which validates if a given set of parentheses are valid or not.
18. Implement a basic string compression algorithm. For example, the string "aaabbbcc" should be compressed to "a3b3c2".

Performance based advanced Questions

Bar Raiser Questions

1. How will you decrease the initial load time?

2. What is CDN? Explain benefits.

3. What are the different cache mechanisms provided by browsers?

4. What is http only cookie.

5. What is CORS?

6. How will you handle 10000 dom elements?

7. What is DNS lookup?

8. What is preload, prefetch and pre connect.

9. Explain SSR, ISR, and SSG

10. What are compression strategies?

11. What is DNS lookup?

12. How will you prevent XSS Attack?

13. How will you prevent CSRF Attack?

14. What is SSE and WebSocket?

15. What are different font loading strategies?

16. What are screen readers?

17. How can you make your website accessible for disabled person?

18. Explain aria attributes.

19. Explain Critical Rendering path.

20. What are 4 Web Vitals?

21. Explain package.json and package.lock JSON

22. What is Tree Shaking?

23. Explain SEO. And how can you accommodate it in SPA?

24. What is Robot.txt file?

25. Explain sitemap.xml file.

26. Explain differences between a production build and a development build.
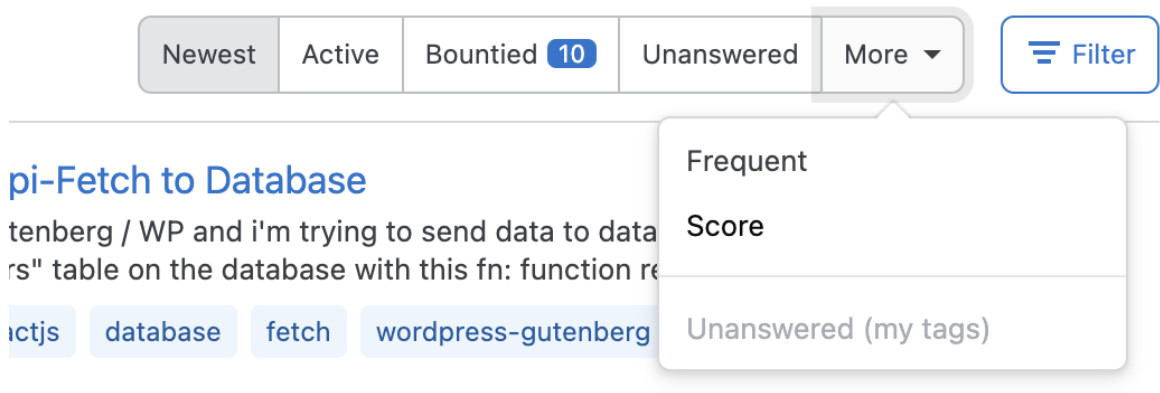
27. What is SourceMap file.

How to go beyond this document.

Tip 1

1. Go to https://stackoverflow.com/tags
2. Search your tag : example javascript
3. Select the tag.
4. Sort questions based on score

5. And now you have an infinite list of amazing questions which will take eternity. Now enjoy the learning.

Tip 2

Go to **https://medium.com/tag/javascript**

Now you know the drill, simply sort by newest or popularity and start learning.