

Day 7 HW - Kathia Teran

1. Does localStorage throw error after reaches maximum limits?
 - Yes , it throws "amplify.store quota exceeded".
2. What are the new form elements in HTML5?
 - Datalist , output , keygen , progress , and meter
3. What is the DOM? How does the DOM work?
 - The Document Object Model (DOM) is a programming interface for HTML and XML documents. It represents the page so that programs can change the document structure, style, and content. The DOM represents the document as nodes and objects.
4. How does the browser rendering engine work?
 - The rendering engine parses the chunks of HTML document and convert the elements to DOM nodes in a tree called the "content tree" or the "DOM tree". It also parses both the external CSS files as well in style elements. ... When the renderer is created and added to the tree, it does not have a position and size.
5. What does a <DOCTYPE html> do?
 - Doctype stands for Document Type Declaration. It informs the web browser about the type and version of HTML used in building the web document.
6. What happens when DOCTYPE is not given?
 - The class name, tags, id's, etc., become case sensitive, and the browser uses quirks mode: where css class and id names become case insensitive.
7. What is the difference between standards mode and quirks mode?
 - In "standards mode" pages are rendered according to the HTML and CSS specifications, while in "quirks mode" attempts are made to emulate the behavior of older browsers.
8. What is difference between HTML and XHTML?
 - A static webpage is an HTML web page and a dynamic web pages are XHTML. HTML is based on SGML while XHTML is based on XML
9. What are the building blocks of HTML5?
 - more semantic text markup.
 - new form elements.
 - video and audio.
 - new javascript API.
 - canvas and SVG.
 - new communication API.
 - geolocation API.
 - web worker API.
10. Describe the difference between a cookie, sessionStorage and localStorage?
 - LocalStorage: is a way to store data on the client's computer. It allows the saving of key/value pairs in a web browser and it stores data with no expiration date. localStorage can only be accessed via JavaScript, and HTML5. However, the user has the ability to clear the browser data/cache to erase all localStorage data.

- **SessionStorage:** stores data only for a session, meaning that the data is stored until the browser (or tab) is closed
- **Cookie:** Stores data that has to be sent back to the server with subsequent XHR requests. Its expiration varies based on the type and the expiration duration can be set from either server-side or client-side. Cookies are primarily for server-side reading (can also be read on client-side), **localStorage** and **sessionStorage** can only be read on client-side.

11. What is Critical Rendering Path?

- It refers to prioritizing the display of content that relates to the current user action.
- It looks at the sequence of steps the browser takes to receive HTML, CSS, and JavaScript bytes, as well as the techniques required to render the initial view of the web page. Steps involved in rendering the page include constructing the object model, constructing and painting the layout, and adding interactivity with JavaScript. Developers tweak parts of these steps to load critical objects that let users see "initial view content" quicker.

12. What are the Benefits of Server Side Rendering (SSR) Over Client Side Rendering (CSR)?

- Client-side rendering manages the routing dynamically without refreshing the page every time a user requests a different route. But server-side rendering is able to display a fully populated page on the first load for any route of the website, whereas client-side rendering displays a blank page first.

13. What is the difference between a `` and a `<div>`?

- A `div` is a block-level element and a `span` is an inline element.

14. Name 5 common block-level and inline HTML elements?

`<address>`

`<article>`

`<aside>`

`<blockquote>`

`<canvas>`

15. What are semantic and non-semantic elements?

- A semantic element clearly describes its meaning to both the browser and the developer. Examples of non-semantic elements: `<div>` and `` - Tells nothing about its content. Examples of semantic elements: `<form>` , `<table>`

16. What is the purpose of main element?

- It is used to denote the content of a webpage that relates to the central topic of that page or application. It should include content that is unique to that page and should not include content that is duplicated across multiple webpages, such as headers, footers, and primary navigation elements.

17. Define semantic markup. What are the semantic meanings for section, article.... and when/how should each be used in structuring html markup?

- Semantic sectioning elements clarify the larger-scale structures within a document. They are intended to enhance the limited semantics of earlier versions of HTML
- New semantic elements were added to HTML5 to improve and clarify the sectioning of websites into meaningful areas of content. It is important for developers to use these semantic elements in line with their intended purposes. Many accessibility tools as well as reader views provided by some browsers rely on semantic sectioning elements.

18. When should you use section, div or article?

- If the content within the element is not semantically related, then use a `<div>`. If the semantically related content is also able to be self-contained, then use an `<article>`. Otherwise, use a `<section>`

19. What is Character Encoding?

- A character encoding tells the computer how to interpret raw zeroes and ones into real characters. It usually does this by pairing numbers with characters. Words and sentences in text are created from characters and these characters are grouped into a character set.

20. What is the purpose of meta tags?

- Meta tags are snippets of text that describe a page's content; the meta tags don't appear on the page itself, but only in the page's source code. Meta tags are essentially little content descriptors that help tell search engines what a web page is about.

21. What does async and defer refer in script tag? Describe the difference between `<script>`, `<script async>` and `<script defer>`

- Async - means execute code when it is downloaded and do not block DOM construction during downloading process. Defer - means execute code after it's downloaded and browser finished DOM construction and rendering process. This will execute scripts in order.
- The difference between async and defer centers around when the script is executed. Each async script executes at the first opportunity after it is finished downloading and before the window's load event. ... Whereas the defer scripts, on the other hand, are guaranteed to be executed in the order they occur in the page.

22. Can you describe the difference between progressive enhancement and graceful degradation?

- Progressive enhancement is a more sophisticated and at the same time stable way of assuring that but it takes more time and effort. Graceful degradation can be used more easily as a patch for an already existing product; it means harder maintenance later on, but requires less initial work.

23. What is the purpose of cache busting and how can you achieve it?

- Cache busting is useful because it allows your visitors to receive the most recently updated files without having to perform a hard refresh or clear their browser cache.
- Cache busting solves the browser caching issue by using a unique file version identifier to tell the browser that a new version of the file is available. Therefore the browser doesn't retrieve the old file from cache but rather makes a request to the origin server for the new file.

24. Name 3 ways to decrease page load?

- Choose a performance-optimized hosting solution. ...
- Compress and optimize your images. ...
- Cache your web pages. ...

25. What ARIA and screenreaders are, and how to make a website accessible?

- Accessible Rich Internet Applications (ARIA) is a set of attributes that define ways to make web content and web applications (especially those developed with JavaScript) more accessible to people with disabilities. It supplements HTML so that interactions and widgets

commonly used in applications can be passed to assistive technologies when there is not otherwise a mechanism. For example, ARIA enables accessible navigation landmarks in HTML4, JavaScript widgets, form hints and error messages, live content updates, and more.

26. What is the purpose of the alt attribute on images?

- The ALT text adds a text description to an image on a Web page, and should be used for all images, graphical bullets, and graphical horizontal rules. ALT text is accessed by screen reader users to provide them with a text equivalent of images.

27. Explain some of the pros and cons for CSS animations versus JavaScript animations?

- CSS is for smaller, self-contained states for UI elements. CSS transitions and animations are ideal for bringing a navigation menu in from the side, or showing a tooltip. You may end up using JavaScript to control the states, but the animations themselves will be in your CSS.
- JavaScript is for significant control over your animations. The Web Animations API is the standards-based approach, available today in most modern browsers. This provides real objects, ideal for complex object-oriented applications. JavaScript is also useful when you need to stop, pause, slow down, or reverse your animations.

28. What does CORS stand for and what issue does it address?

- Cross-Origin Resource Sharing (CORS) is an HTTP-header based mechanism that allows a server to indicate any other origins (domain, scheme, or port) than its own from which a browser should permit loading of resources.

29. Ways to improve website performance.

- Enable compression.
- Minify CSS, JavaScript, and HTML. ...
- Reduce redirects. ...
- Remove render-blocking JavaScript. ...
- Leverage browser caching.

30. Comparison of browsers engines like Chrome, Firefox, Internet explorer, Safari?

- Chrome is ubiquitous — and for good reason. With a robust feature set, full Google Account integration, a thriving extension ecosystem (available through the Chrome Web Store), and a reliable suite of mobile apps. Firefox comes in a close second. The Opera browser shares much of Chrome's DNA. Both browsers are built on Google's open-source Chromium engine.

31. What does the lang attribute in html do?

- The lang (or sometimes the xml:lang) attribute specifies the natural language of the content of a web page. An attribute on the html tag sets the language for all the text on the page.

32. What is desktop first and mobile first design approach?

- With a mobile-first approach it's easy to consider dynamic features more like an afterthought. But with a desktop-first approach you're treating these features as the primary display method, then choosing to remove them as needed.

33. What are data- attributes good for?

- They allow to store extra information on standard, semantic HTML elements without other hacks such as non-standard attributes, extra properties on DOM, or Node.setUserData().

34. Explain the difference between layout, painting and compositing?

- layout:- the way in which the parts of something are arranged or laid out.
- painting:- its the action of using paint, to create a graphic. Yes, painting is a graphic and so is a photograph and a typeface.
- Composition:- combining two or more images/elements to make a single graphic is composition.

35. Explain about HTML Canvas?

- The HTML <canvas> element is used to draw graphics, on the fly, via JavaScript.
- The <canvas> element is only a container for graphics. You must use JavaScript to actually draw the graphics.
- Canvas has several methods for drawing paths, boxes, circles, text, and adding images.

36. Explain about HTML Layout Engines used by browsers?

- Google Chrome and Opera v. 15+: Blink.
- Internet Explorer: Trident.
- Mozilla Firefox: Gecko.
- Chrome for iOS and Safari: WebKit.

37. What are the semantic tags available in html5?

```
<article>
<aside>
<details>
<figcaption>
<figure>
<footer>
<header>
<main>
```

38. Why you would like to use semantic tag?

- It reinforces the semantics, or meaning, of the content rather than its appearance. ... All of these semantic tags make it clearer what information is on the webpage as well as its importance.

39. How to make page responsive?

- Setting the viewport, and adding the following <meta> tag to all your web pages.
- You can use CSS Media Queries or Bootstrap.

40. What is difference between span tag and div tag?

- A div is a block-level element and a span is an inline element. The div should be used to wrap sections of a document, while use spans to wrap small portions of text, images, etc. The <div> element is used while creating CSS based layouts in html, whereas element is used to stylize texts.

41. What are optional closing tag?

```
<html>
<head>
<body>
<p>
<li>
<dt>
<dd>
<option>
<thead>
<th>
<tbody>
<tr>
<td>
<tfoot>
<colgroup>
```

42. What is a self closing tag?

- Rather than typing <p></p> (with no space at all in between), you'd be able write <p/>.

43. Does the following trigger http request at the time of page load?

- For an uptime check (http check) the response time is calculated as the time it takes to perform an HTTP GET to the specified URL, so the response time is calculated in three parts:
 - Time to first byte
 - Time to receive headers
 - Time to load HTML of the site

44. How Geo-location API works in html5?

- HTML5 geolocation detects latitude and longitude coordinates by using the device's GPS (if available on the device) or the device's mobile/WIFI signal (if GPS is not available). The mobile/WIFI signals are triangulated to work out the latitude and longitude.

45. What is difference between SVG and Canvas?

- SVG gives better performance with smaller number of objects or larger

surface. Canvas gives better performance with smaller surface or larger number of objects. SVG is vector based and composed of shapes. Canvas is raster based and composed of pixel.

46. Explain Drag and Drop in HTML5?

- It's powerful User Interface concept which makes it easy to copy, reorder and deletion of items with the help of mouse clicks. This allows the user to click and hold the mouse button down over an element, drag it to another location, and release the mouse button to drop the element there.

47. Why to use IndexedDB instead of WebSQL in HTML5?

- LocalStorage is slightly faster than IndexedDB in all browsers (disregarding the crashes).

48. Explain Application Cache in HTML5. OR What is a manifest file in HTML?

- HTML5 addresses some of the annoyances of being offline with the ApplicationCache interface:
 - Offline browsing - users can navigate your full site when they're offline
 - Speed - resources come straight from disk, no trip to the network.
 - Resilience - if your site goes down for "maintenance" (as in, someone accidentally breaks everything), your users will get the offline experience

49. Explain Microdata in HTML5?

- Microdata is a standardized way to provide additional semantics in your web pages. Microdata lets you define your own customized elements and start embedding custom properties in your web pages. At a high level, microdata consists of a group of name-value pairs. The groups are called items, and each name-value pair is a property. Items and properties are represented by regular elements.

50. List the API available in HTML5?

- Geolocation, getUserMedia/Stream API, History API, Canvas 2D Context, Forms, Drag and Drop, Selection, etc.

51. What are different new form element types provided by HTML5?

- There are five new form elements in the HTML5 forms specification: datalist, output, keygen, progress, and meter.

52. What are the HTML tags which deprecated in HTML5

- img and iframe. caption, iframe, img, input, object, legend, table, hr, div, h1, h2, h3, h4, h5, h6, p, col, colgroup, tbody, td, tfoot, th, thead and tr. table, tr, td, th and body.

53. How you can Use Modernizr in HTML5?

- Modernizr is a small JavaScript Library that detects the availability of native implementations for next-generation web technologies. It provides an easy way to detect

any new feature so that you can take corresponding action. For example, if a browser does not support video feature then you would like to display a simple page.

54. What is the use of WebSocket API?

- It makes it possible to open a two-way interactive communication session between the user's browser and a server. With this API, you can send messages to a server and receive event-driven responses without having to poll the server for a reply.

55. What does `enctype='multipart/form-data'` mean?

- It's an encoding type that allows files to be sent through a POST. Quite simply, without this encoding the files cannot be sent through POST. If you want to allow a user to upload a file via a form, you must use this `enctype`.

56. What is progressive rendering?

- Progressive rendering is a rendering mode in which the program gradually updates small parts of the entire image refining it from low quality to final result rather than focusing on one small part of the image at a time.

57. What is difference between Select and Datalist?

- For the select element, the user is required to select one of the options you've given. For the datalist element, it is suggested that the user select one of the options you've given, but he can actually enter anything he wants in the input.

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- They allow us to store extra information on standard, semantic HTML elements without other hacks such as non-standard attributes, extra properties on DOM, or Node.