Important questions

1) what is HTML and it's purpose?

HTML stands for Hyper text mark up language. It is used to build the static webpages.

↳ It is used to structure a webpage and its content.

2) what is difference b/w HTML and XHTML?

HTML	XHTML
* HTML stands for Hyper text markup language.	* XHTML stands for Extensible Hyper text markup language.
* HTML is not a case-sensitive language.	* XHTML is a case-sensitive language.
* HTML document requires a minimum of four tags to create an HTML page. that is <html> <head> <title> <body> The <!DOCTYPE> declaration is not necessary for HTML.	* An XHTML must contain the <!DOCTYPE> declaration by the <HTML><head> XHTML and xmlns attribute in <html> is also necessary.
* Some HTML elements may function properly without a closing tag.	* All the elements should be closed even the empty elements also require to close.

3) What are new features introduced in HTML5?

* Semantic elements
* Audio video support
* Canvas elements
* Geolocation API
* local storage
* Responsive images
* Drag and Drop API.

4) How do you include comments in HTML?

↳ The comment tag is to used insert comments in the source code comments are not displayed in the browsers.

<!-- -->
tag.

3 types of comments

single-line (//)
inline (<!- - - ->)
multi line : (<!- - - ->.

5) Explain the difference between div and span tag.

div	span
* Block element * used for css based HTML layout * support alig attribute div tag displayed in new line	inline element * used to stylise the text * span tag always starts with the same line.

6) what are semantic elements in HTML and what are they important?

* Semantic elements help structure the code we create making it more readable and easier

* provide the clear information about tag and tells the developer the the purpose the tag.

Ex: <p> <footer> <title> <article>
<header> <address> <nav> <aside>
<main> <mark> <section> <summary> <time>

7) What is the purpose of <header> <nav> <section> <footer> tag in HTML5?

<header> Specifies header for a document or section
<nav> Defines the navigation links
<footer> Defines a footer for a document or section
<section> Defines a section in a document.

8) How do you create a hyperlink in HTML?

The <a> tag defines a hyperlink, which is used to link from one page to another.

9) What is difference between <ul> and <ol> elements?

An unordered list (<ul>) is used to create a list of items in no particular order.

* Items is not relavant.
* By default the items in this list will be marked with bullets.

Ordered list (<ol>)

* used to create a list of items in an specific order.

10) How do you embed an image in HTML

The HTML <img> is used to embed an image in the webpage.

11) Explain difference between the & tag.

* Strong tag is used to give the text a strong emphasis.

* em tag in HTML used to emphasize the text.

12) How do you create a table in HTML?

An HTML table is created with an opening <table> tag and a closing </table>.

inside these tags data is organized into rows and columns by using opening and closing table row <tr> <td> table data.

13) What is the purpose of <form> tag in HTML and how do you create a form.

* An HTML form is used to collect the user input. The user input is most often sent to a server for processing.

* form elements is used to create an HTML form for user input.

```
<form>
    elements
</form>
```

14) what is some new input types introduced in HTML5?

* Date, DateTime, Date Time - local, time, week, month, email, tel, URL, search, range, color and number.

15) How do you include audio and video content in HTML.

The <audio> and <video> tags make it simple to add media to a website. You need to set src attribute to identify the media source.

```
<video src = "..mp4"/>
</video>
```

Video attributes

① autoplay ② autobuffer ③ controls ④ height ⑤ loop ⑥ preload ⑦ Poster ⑧ src ⑨ width.

audio

mp3

```
<audio src = "..mp3"
</audio>
```

16) what is the purpose of the <iframe> tag and how is it used?

An inline frame (iframe) is a HTML element that loads another HTML page within the document.

Ex: youtube, advertisements, google maps, etc

17) How do you add CSS styles to HTML?

* inline => inside the tag we will gonna to style.
* Internal => inside the head tags.
* External => creating an external file with the extension (.css) and link in the html document.

18) What is the role of the alt attribute in <img> tags?

The alt attribute specifies an alternate text for an area. If the image cannot be displayed

19) How can create a numbered list with various numbering styles in HTML.

An ordered list is a marked with the numbers by default.

  defines the list items

* type attribute to define the numbering type.
* list can be nested.

20) What is difference b/w <script async> and <script defer>?

Script async	async defer
* Can interrupt page rendering to execute.	* won't interrupt page rendering to execute.
* Executes as soon as possible and no particular order.	* Execute sequence first before DOM Content loaded Event.

21) What is responsive web design and why it is important.

The responsive web designing means it should be responsive through out all the modes like mobile, desktop, laptop, tab everywhere because of this we are using the media queries. bootstap, css, etc.

22) What is media query and how is it used for responsive design?

allow you to create different layouts depends on the size of the viewport but, they can be used to detect the other things about the environment runs on.

@media query with max-width or min-width,

23) difference b/w fluid layout and fixed layout in terms of responsiveness.

In fluid layout the width is measured in percentages instead of pixels.

fixed website layout has a wrapper that is a fixed width, and the components inside it have either percentage or fixed width.

25) How to make image responsive in css.

By using css and setting the width of the image to be percentage of its parents container rather than fixed pixel value.

27) How can you hide elements on specific screen size using CSS.

Using display property set to its "none" value along with @media rule.

28) What is the purpose of max-width property in responsive CSS?

It defines the maximum width of an element. If the content is lager than maximum width, it will automatically changes the height of the element.

29) How do you create a responsive navigation menu using CSS.

* use @ media rule to create responsive navbar
* list items of and align that float-right to small screen.
* position : relative, whereas the icon will use position absolute.

30) Explain concept of mobile first design and how it relate to responsive CSS

Stands by designing the application for mobile devices first and then for desktop devices.

31) CSS flexbox and what problem does it

* flex box is one demensional layout method for arranging items in rows or columns.

* makes our life easy to design and build responsive web page without having tricky hacky a lot of float and position properties in our CSS code.

32) Explain difference b/w flex container and flex items.

* A flex container is a HTML element whose display property's value is flex or inline-flex.

* the flex item are the direct children of a flex container

33) How do you create a flex container in CSS.

To create flex-container we set value of the areas container display property to flex or inline-flex.

34) What is main properties used to control the layout in flex box?

flex-direction => Specifies the direction on flexible items inside a flex container.

flex-flow => A shorthand property for flex-direction and flex wrap.

flex-wrap => wrap the items nowrap and wrap reverse.

35) How do you specify the direction of flex items within the flex container.

Add the flex-direction property to the flex container's display setting flex-direction like

* display - row, row-reverse, column, and column-reverse

36) What is the purpose of flex-grow, flex-shrink and flex-basis properties.

flex-grow => Specifies how much a flex item will grow relative to the rest of the flex items inside the same container.

flex-shrink => specifies how much a flex item will shrink relative to the rest of the flex items inside the same container

flex-basis => allows you to specify the initial starting size of the element before anything else is computed

37) How do you align flex items horizontally and vertically within the flex container.

By using the two properties called align-items and justify-content.

38) Explain difference btw align items and justify content properties in flexbox

* If the elements are arranged horizontally (a row (or rows), the main axis is horizontal, and the cross axis is vertical.

* If the elements are arranged vertically (a column (or columns) the main axis is vertical and the cross axis is horizontal.

39) How can you control the order of flex items using CSS flexbox?

flex box ordering happens with the flex-direction and flex-wrap properties.

40) what are flexbox breakpoints and how can they be used for responsive design.

we use a breakpoint to switch the multiple column when the screen grows, and limit the size of the main content with max-width.

41) What are HTML attributes

* An HTML attribute is a piece of markup lang used to adjust the behavior & display of an HT element.

42) Explain the difference btw global attributes HTML? and element-specific attribute.

* Global attributes are attributes common to all HTML elements. They can be used on all elements, though they may have no effect on some elements.

* piece of markup language used to adjust the behavior or display of an HTML element

(3) What are HTML attributes?

An attribute is a piece of markup language used to adjust the behavior or display of an HTML elements.

Eg: color, size, functionality of HTML elements.

(4) What is the purpose of the class attribute and id attributes.

Both id and class attributes are used for style the specified tag while using the id means it will be used for one and it will be unique for the tags.

class means there may be n' number of tag or elements can use the class properties.

(5) What is the role attribute in HTML; Explain clearly in the context of links and the anchors?

4) The href attribute specifies the URL of the page the link goes to. If the attribute is not present, the <a> tag will not be hyperlink.

48) What is purpose of target attribute in HTML links and what are its possible values?

The value of target attribute in the tag is the specified target window. Possible values include _self, _top, _parent, _new & any other valid name for a target window.

49) How do you use the src attribute to embed an external resource such as an image & video in HTML?

The src attribute contains a URL pointing to the image you want to embed in the page.

50) What is the purpose of the disabled attribute and how is it used in HTML form elements?

The disabled attribute is a boolean attribute, when present, it specifies that the element should be disabled.

A disabled element is unusable. The disabled attribute can be set to keep a user from using element until some condition has been met. (like selecting a checkbox etc).

Javascript Questions

Q1) Is there any relation between Java and Javascript

Java	Javascript
* Java is an oops programming language	* Javascript is an OOPs scripting language.
* Java creates applications that run in a virtual machine or browser.	* Javascript code is run on a browser only.
* Java code needs to be compiled	* Javascript code are all in the text.
* They require different plugins.	

Q2) Is Javascript is a compiled or interpreted language?

Javascript is an interpreted language, it will run each and every line at a time, it will execute code line-by-line.

Q3) Is Javascript is a case-sensitive language.

Yes JS is case sensitive that language keywords, variables, function names, and other identifiers must always be typed with a consistent capitalization of letters.

54) What is node js?

Node Js is a cross-platform, open-source JS runtime enviorment that can run on windows, linux, mac, os and more.

55) What is difference blw let and var?

let	var
* let is block scope	* var is functional scope.
* let variables can't be hoisted	* hoisting is possible.
* can be declare the not assign the values.	* var declared and re-assign the values.

56) What are difference blw undeclared and undefined variables?

undeclared means not assigned or not declared
undefined means not assigned and not that is declared. but not assigned values.

57) What is Hoisting?

It mechanism where the declaration of the variable will going to move on the top of the scope.

58) What is scope in JS?

The current context of code, which determine the accessiblity of variables in JS.

Two types:-

local => variables are those declared inside of a block.

global => variables are those declared outside of a block.

5q) What are reserved words? can I use reserved words as identifiers.

Is reserves a number of identifiers as the keywords of the language itself. You cannot use these words as identifiers in your programs, break delete function return type of case do If switch var catch else in this void continue finally instance of.

6q) Why do you need strict mode! How do you declare strict mode.

Strict mode makes it easier to write "secure JS.."

Put the exact statement "use strict"; before any other statements.

6) What are global variables

* global variables that can be accessed throughout program or documents.

62) What are the problems with global variables?

* Namespace Pollution, global variables live in the global namespace.
* code maintainance, global variables can be modified from anywhere in the code makes it difficult to track the changes.
* Risk of overwriting variables
* memory consumption.

63) What is NAN property?

In JS, NAN is short for "Not-a-Number. In JS, NAN is a Number that is not a legal number.

64) What is purpose of delete Operator?

The delete operator removes a given property from an object.

Using the special operator in JS called the delete operator.

65) What is null and undefined?

Null in JS means an empty value and is also Primitive type in JS.

The variable which has been assigned as null contains no value.

undefined on the other hand means the variable has been declared, but its value has not been assigned.

66) What are bitwise operators available in Javascript.

|	OR	Sets each bit 1 if one of two bits is 1
^	XOR	Sets each bit 1 if only one of the bits is 1
~	NOT	Inverts all the bits
<<	Zero fill left shift	Shifts left by pushing zeros in from the right and letting the left fall off.

67) Can I redeclare let and const variables?

let and const can not be redeclared.

let and const must be declared before use.

68) Does const variable makes the values immutable?

The const declaration creates an immutable reference to a value.

69) What is ES6? List down some of the features of ES6?

* A function is the set of input statements, which performs specific computations and produces output
* let and const keyword
* Arrow function
* multi-line string
* Default parameters
* Template literals.

* Destructing Assignment
* Enchanced object literals.
* Promises.

70) What are possible ways to create objects in JS.

* By creating Instance of object
* Constructor
* Object literals
* Singleton pattern.

71) What is difference blw slice and splice.

* slice method can be used to create a copy of an array or return the position

slice (option start parameter, optional, and parameter).

* splice methode will change the contents of the original array.

methods used to add or remove elements from an existing array and return value will be removed items from the array.

splice (start, option delete count, optional items to add).

72) What is difference between.

* == and ===
* = and ==

81) How do you search a string for a pattern.

search(). know its index within a string.

82) What is the purpose of switch case?

A switch statement compares the value of an expression to multiple cases.

Switch statements will check for strict equality.

The switch statement executes a block of code depends on different cases.

83) What are the conventions to followed for use of a switch case.

The values in the case must be unique each statement of the case can have a break statement. It is optional the default statement is also optio

84) What are primitive data types?

The Number, boolean values, and null and undefined types are primitive objects, arrays, an function and are reference types.

A Primitive type has a fixed a fixed si in memory.

85) What are the different ways to access its properties.

There are multiple ways you can use to access the to those properties.

These are dot notation, brackets notation and destructuring.

86) What are function parameter rules.

* The function only gets to know the values not the arguments locations.

If a function changes an arguments value it does not change the parameter's original value.

87) different ways which create infinite loops.

* While loop represent the infinite condition as we provide value inside the loop condition

* For loop.

* for-in loop always loops over an object elements one-by one

* simple for loop.

88) What are template literals

The template literals are literals delimited with backtick (`) characters, allow for multi-line strings, string interpolation with embedded expressions and special constructs called tagged templates.

84) What are default values in destructuring assignments?

The default value is used when the property is not present, or has value undefined.

85) How do you swap variables in destructuring assignments?

[a,b] = [b,a] is the destructuring assignment that swaps the variable a & b.

91) Is it possible to use the expression in switch case?

The expression switch is provided with an expression that can be constant or literal expression that can be evaluated.

92) What are difference b/w for-of and for-in statements?

The for-in statement iterates over the enumerable string properties of an objects, while the for-of statement iterates over values that the iterable object defines to be iterated over.

93) What are differences between arguments object and rest parameter?

The values that are declared within a function when the function is called are known as an argument.

Whereas the variables that are declared when the function is declared are known as a parameter.

94) What are difference between spread operator and rest operator.

Spread	Rest
* spread operator allows us to expand an array or object into its individual elements * deep copy the top-level elements of array, but shallow copy the nested array * Unpacking	* Rest operator allows us to condense multiple elements into a single array. * Rest parameter represents the unknown number of arguments inside the function. * Packing.

98) Explain all the array methods what are the outputs and whenever the method modifies the original array.

Array Methods

```
[3,4,5,6].at(1); //4
[3,4,5,6].pop(); //[3,4,5];
[3,4,5,6].push(7); // [3,4,5,6,7]
[3,4,5,6].fill(1); // [1,1,1,1]
```

```
[3,4,5,6].join("-"); // "3-4-5-6"
[3,4,5,6].shift(); // [4,5,6]
[3,4,5,6].reverse(); // [6,5,4,3]
[3,4,5,6].unshift(1); // [1,3,4,5,6]
[3,4,5,6].includes(5); // true
[3,4,5,6].map((num)=> num+6) // [9,10,11,12]
[3,4,5,6].find((num)=> num>4); // 5
[3,4,5,6].filter((num)=> num>4); // [5,6]
[3,4,5,6].every((num)=> num>5); // false
[3,4,5,6].findIndex((num)=> num>4); // 2
[3,4,5,6].reduce((acc,num)=> acc+num,0) //
```