Akash.I

Assignment.

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1 What is the purpose of css media queries?

The purpose of media queries is to create responsive web design that adopt to different screen size resolutions & devices.

2. How do you write a basic media query in css?

we write basic media quary by using @ media & the type and condition.

3. Explain the difference b/w max-width & min width in media queriee

It apply style when the width is less or equal to specified value	It apply style when the width greater than equal to specified value
once the viewport width is exceeds the specified value media query will no longer apply	* within the minimum width media query is not apply until specified width is reached

4 What is the purpose of the viewport meta tag in responsive

* A viewport is the user's visible area of a webpage
* A viewport metatag is Html code that tells browsers how to contral viewport dimension & scalling
* Its a Key ingrdient of responsive webdesign and ensures your content is easy to view so that webpage can adjust its width according to viewport.

6 Explain the concept of a mobile first approach in responsive design.

A mobile-first approach involes designing a desktop site starting with the mobile version which is then adapted to larger screens.

* Generally speaking a mobile first approach means building your website with your mobile users in mind, with the main goal of improving these mobile user experience on your site.

7 what are the common break points used in responsive design?

extra small (less than 576)
used in phone in part

small (576 to 991px)
small laptops & tabs

large (lg) (992 to 1199px)
laptop PC

Extra large (1200px to above.
monitors

8 what is the purpuse of the rem unit in media queries?

The purpus of using rem media queries we can create flixable & adaptable that respond to change font size & provided better experence to user.

ex: media (min-width 30 rem{
}

9 How can you combine multiple media queris in css ?

We can combine multiple media queris using logical operators such as and, or, and, not create more complex & specfic condition.

and opp:- you can combine multiple media querys using the and oprator to create a compound condition that must be satisfied for the style to apple.

* It is a key word to match condition.

or:- The or operator allows you to apply styles if any of the specified condition are met.

not:- The nor operator gates that specifies condition appliying styles when condition is not met

10 What is the significance of the all keyword in media queries.

The all ~~are~~ keyword in media queries is a universal type that includes all media types it is the default value if no media types is specified.

11 How do you use media queries to apply style only for print style sheets ?

first we use media type as print after we apply whatever the styles want to print

ex:- @ media print {
background color: white;
color: blue
margin: 0 }

page is used to modify different asspects of printed pages.

12 What is the difference b/w screen & print in media Queries?

Screen	Print
* This is media type is for on screen viewing	* This media type is for print style sheets
* used for computer screen tablets, smartphone etc	* it is effectively work on printable pages
* This is the default media type if we won't specify any one in media query	* we do print media type as adjustmt the font size hide non essential element.

13 How con you hide an element on a specific screen size using media Query?

We con hide an element by using display property as display: non we apply this property inside the media queries it comes true when the specified condition is met.

14 explain the Role of the orientation property in media query?

This property is perticularly useful for adjusting the layout & styling of a webpage depending on the device's orientation.

15 How do you target specific device using media queria?

We are targetting the specific devices by using condition & apply styles based on screen size resalution & other features

16 What is the purpose of the not keyword in media queries?

The not keyword in css media queries apply these styles only if the condition is not true.

ex:- @media not screen &(min-width:600px)
color : green;
font size: 30px;
}

17 How can you use media queries to adjust for sizes for different screen sizes?

We adjust font size for different screens using media queries in CSS
for ex;-

```
            body {
default font size      font-size :16px;
  of all screen.          }
```

18 What is the box sizing property in CSS & what does it control?

The CSS box-sizing property is used to adjust or control the size of an element.

There are two main values in Box sizing
* content Box
* Border Box

Content Box:- This is the default sizing
> width & height property only apply to elements content box
> it doesn't overlap the content
formula:- Total width = width of content

Border Box:- The width & height property include the content padding & Border
> it overlap the content when Border size is increase.

formula: Total width=width of contnt + wb + wp
Total heigh= height of contnt + hb + hp

19) Explain the difference between box sizing content-box; & box-sizing: border box

* Content box	Border Box
* It consist height & width	* It consist height & width & also border & padding
* it doesn't overlap the content	* It overlap
* It is default behaviour in css	* it prefered for modren web develop-ment.

20) How does the box sizing property affect the the calculation of on elements width & height in css?

-> In the box sizing property has two values in content box calculate - total. width = width of content in Border Box calculate = Total width = width of content & width of border + width of padding

21) why might you choose box-sizing: border-box as the default box model for your project?

Because the box sizing property allow use to include the padding & border include elements total width & height

22) Diffrence b/w normalizing & resetting?

normalising	resetting.
* The goal of normalising CSS	* Reset are intended to remove all default browser Styles
* It is simple to debug while normalizing	* As it is practically impossible to find bugs debugging is challenging.

23) what is a CSS combinator, & how is it used in a selector?

The CSS combinators are something relationship b/w different selectors

1) Descendent combinator (' ') space

That matches all the elements that are desendents of specified element

```
ex:- div p{
        color: Blue;
     }
```

2) Child combinator (>)

The child combinator slects all elements that are the children of specified element

```
ex:- ul > li{
        color: green;
     }
```

3) Adjacent Sibling combinator('+'):
This selects an element that is directly after another specif element

```
ex  h2+p{
        color: white;
    }
```

4) General sibling combinator('~'):
This selects all elements that are siblings of specified element.

24 Differentiate between desendont & child combinator in css selector provide Example for each.

Descendont	child
* It Select all descedont of a specified element regardless of how deeply nested they are	It slects direct child of a specified element.
* It uses a space b/w the selectors	* It uses the greater than symbol (>)

25 Explain the purpose of the adjacent sibling combinator(+) in css provide a use case

* The adjacent sibling selector is used to select an element that is directly after another specific element

* Sibling elements must have the same parent element & adjacent means immediately following.

```
ex!:- div+p{
        } backgro-color: yellow;
```

26 How does the general sibling combinatar(~) differ from the adjacent sibling combinatar(+)?

General sibling combinatar(~) :-

The general sibling selectar in CSS is used to select all general siblings of an element that follows that element.

* In the other words it selects those element in a document that are nested under the same parent element as a specified element & is also present after that element.

* It is represented by using a tilde (~) two selectors

Adjacent sibling combinatar (+) :-

* It is used to select all the immediate siblings of an element in a webpage.

* It selects only the element that immedia-tely follows an element.

* It is represented by using plus (+) two slectors

27. What is the significance of the child combinatar (>) in CSS selectors?

* The child selectors in CSS is used to select element in a webpage that are the direct children of a specified element.

* In other words it selects only those elements that are nested directly inside a specified element & not those which are nested inside a child or grand child of an element.

28 How con you select all paragraphs that are direct desecandonts of a div using a CSS selector?

To select all paragraphs that are direct descendonts of a div using the child selector (>) along with the 'p' selector for paragraph

```
ex:- div > p {
        /* styles */
     }
```

29 Provide an example of using the desendant combinator to style nested elements

HTML:

```
<div class= container>
<p> This is a paragraph</p>
<div>
  <p> This is a paragraph</p>
<span> This is a span inside the nested div </span>
</div>
</div>
```

CSS part

```
container p {
        /* your styles here */
       color: blue;
  }
```

30 Explain how the space between two selectors represents a descendant combinator.

- In css the space b/w two selectors is known as the descendant combinator
- It is used to select all elements that are descendants of the first specified element
- The descendant combinator is represented by a whitespace character.

ex:-
```
selector1, selector2 {
        /* styles */
      }
```

- Selector-1 This is the ancestor elements It represents the element whose descendants you want to style.
- Selector-2 This is the descendant element It represents the elements that are descendants of the element that are descendants of the elements selected by selector1.

31 How would you select an element that is the immediate next sibling of another element in css?

In css you can use the adjacent sibling combination (+) to select an element that is the immediate next sibling of another element.

Syntax:-
```
element1 + element2 {
     /* style */
  }
```

Here element1 & element2 are the two elements involved & the '+' symbole is the adjacent sibling combinator. This selector will match 'element2' only if it is an immediate sibling that directly follows 'elements1'.

32] In what scenarios would you chose one combinator over another and what are the considerations when using combinators for efficient css selectors?

When chosing combinators in css selector its important to consider the structure & complexity of your HTML documents.

(i) Descendant selectors:-
use case :- when you want to select nested elements regardless of their level of nesting.
* considerations:- This is usefull for styling element within a specific container @ context However it can also lead to less efficient selector if not used carefully as it targets all descendants.

(ii) child combinator (>):-
* use case :- when you want to select immediat children of a parent element.
* considerations:- This is more specific than the descendant combinator & can can lead to more efficient selector since it only target direct children.

(iii) Adjacent sibling combinator (+)
use case :- when you want to select elements that ~~share the same parent & appear of~~ is the immediate next sibling of another element
* consideration :- usefull for styling elemen that follow each other directly. can be eff for selecting specific elements in a sequ

(iv) General Sibling combinator (~) :
use case :- When you want to select elements that share the same parent & appear after a specified element.
considerations: similar to the adjacent sibling combinator but less strict as it selects all matching siblings, not just the immediate next one.

33 Explain the concept of CSS pseudo-selectors provide examples of commonly used pseudo selectors & their purpose.

- CSS pseudo-selectors are special keywords that are used to select & style a specific portion of an elements content or state of an element.
- They allow you to target elements based on criteria that cannot be expressed using regular element selectors alone.

(i) :hover :-
purpose :- selectors & styles an element when the user hover over it

```
a: hover {
        color: red;
    }
```

(ii) :active :-
purpose: Selects & styles an element while it is being activated.

```
ex:- button: active {
            background-color: green;
        }
```

(iii) :focus :-
purpose: selects and styles an element that has focus (mainly keyboard)

(iv) :nth child:
purpuse:- selects elements based on their position within a parent element (even/odd)

```
ex:- 1::nth-child (odd){
          background-color: red;
     }
```

34) Differentiate b/w pseudo-classes & pseudo elements in CSS & give exampus of each

pseudo - classes	pseudo - elements
* It uses a single colon (:) before the name	* It uses a double colon (::) before the name
* It select elements based ~~on their state~~ ~~position~~ on their state or position	* It select parts of on elemt content or create additional
* They are applied to entire elements.	* They are applied to speci parts of an element cont

ex:- a:houer{
color:blue
}
	* Ex:- p::before{
	content:

35 How can you use the nth-child pseudo class to select specific element in a list or container? prove on exompu.

The :nth-child pseudo class in css allow you to select & style elements based on their position within a part container ex: Selecting odd & Even elements

```
li: nth-child (odd)
        {
        background-color: red;
        }
```

Java script

1] What are the primitive Data types in Java script?

The primitive Data is used to store the single data or one Data.

The primitive data types are:-

- * Numbers
- * strings
- * Boolean
- * undefined
- * symbol

2 Explain the difference b/w null & undefined in Java script.

Null:- is a value can explicitly set do indicate the absence of any meaningfull value.

* it explicitly set by programmer

Undefined:- means a variable has been declared but has not been assigned value

* it is built-in primitive value in Java script

3] How do you check the data type of a var in Java script.

we can check the datatype of variable using the 'type of' operatator.

4 Explain the concept of truty & falsy value in Javascript. provide exampler

→ In Javascript catgorized truthy & falsy value in Boolean data type

ex:- let x= true
console.log(x)

5 what is the difference between == & === operators in Javascript & how do they relate to data types?

"==" This operator compares values farity
"===" This operator comparing the both va & type of operonds.

example:
console.log (6=="6") comparing valu
it returns true
console.log (10==="0") comparing the type
=> it returns false.

7 Explain the difference b/w the ++x & x++ increment operators in Java script
++x & x++ = Both are Incremet operator
++x → This is pre incremt operator
x++ → This post incremnt operator.

8 How daes Java seript hondlee Nan (Not a Numbr) values, & how can you check if a value is non?

=> In Java seript 'NaN' (Not a number) is a special value repprsenting the result of an operation that camot produce a meaningfull numeric result.

9) Explain the concept of type coercion in Java seript provide examples

Type coercion in Java seript is the automatic conversion of value from one data type to another during runtime of a progrom.

There are two types
(i) explicit type conversion
(ii) implice conversion

Implicit coercion:

This occurs automatically during operation, and the Javascript tries to convert one or both operond to a common data type

```
  let y = 50;
      z = "20"
  console.log (y+z)
```

Explicit coercion:-

Developers can also explicity coerce value from one type to other using function

```
      let x = 489
          y = string(x)
  console.log (type of (x))
  console.log (type of (y))
```

10 what is the purpose of the undefined dat & when might it be explicity assigned to a vari

undefined is a primitive datatype occurs when we declare a variable bu don't assign the value.

ex:-

```
let z;
console.log(z)
```

11) How do you create & use template litrals (string interpolation) in Java

⟹ we use template literals enclosed within the backticks (' ') use inste single or double quotes & we use ${dolor} symbol & we use curly br

```
ex:- let x = 10
         y = 20
console.log('The sum of ${x} & ${y}[illegible]')
```

12 What is hoisting?

The process of moving all the elem decleration to the top of the scope

13 what is IIFE?

IIFE is stands for 'Immediately Invo function expression also called as self invoking function & function call itse function.

14) What is meant by default parameter passing

→ Default parameter means we are allow to specify default values for function parameter when the function is called if value is not provided for parameter Then default value is used.

ex:- function info (name, age =16) {
    console.log (`my self ${name} & my age is ${age}`)
}

info ('Pappu')

15 what is default return value?

The default return value is undefined

ex:- function a(x) {
    return
}
a(2)
console.log (a(2))

16 How to pass unlimited number of parameter to function

→ we pass unlimited number of parameters by using Arguments Keyword. & in the Arrow function call use rest parameter(