# CSS :

1) What is the purpose of css media queries?

Media query is a technique used to include a block of CSS properties if the condition is true.

Media query allows to create different layouts depending on the size of the viewport.

2) How do you write a basic media query in CSS?

```
@media screen and (max-width: 600px)
{
    background-color: red;
    font-size: 20rem;
}
```

- The @media rule introduce the media query.
- screen is the type of media being target.
- max-width : is the condition of the query. # means that the style inside the query will apply only when the condition is true.

media-types:

- all - used for all media type device.
- print - used for print preview mode.
- screen - used for computer screen, tablets, smartphones etc.

Media-Features:

* Orientation - Orientation of the viewport, landscape (or) portrait.
* max-height - Maximum height of viewport.
* min-height - Minimum height of viewport.
* height - height of viewport.
* max-width - Maximum width of viewport.
* min-width - Minimum width of viewport.
* width - Width of viewport.

3) Difference b/w max-width and minwidth in media-queries

max-width: This condition is true when the viewport width is equal to or less than the specified value.

min-width: This condition is true when the viewport width is equal to or greater than the specified value.

4) What is the purpose of the viewport meta tag in responsive web design?

HTML5 introduced a method web designers take control over the viewport, through the <meta> tag.

This gives the browser instructions on how to control the page dimension and scaling.

Viewport meta tag provides instruction to the Browser on how to adopt the content.

<meta name="viewport" content "width-device-width, initial-scale = 1.0">

The width = device-width part is the width of the page to follow the screen-width of the devices (which will vary depending on divided).

The initial-scale = 1.0 part sets the initial zoom level when the page is loaded by the browser.

5) How can you apply different styles for landscape and portrait orientation using media queries.

We use the orientation media feature in CSS media queries to apply different style based on orientation

Ex: @media (orientation : potrait)

{

}

@ media (orientation : landscape)

{

}

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

It is a strategy in web responsive web design that involves designing and developing a website starting from the smallest screen (mobile devices) and then progressively evolving the design for larger screen. The idea is to prioritise the mobile experience and as the screen increases add more features and style.

7) What are common Breakpoints used in Responsive web design?

Specific points at which the layout & styling of a website is adjusted to accomodate different screen size.

*) Small (phone) → @media screen and (min-width : 320px)

*) Small-medium (phone, tab) → min-width : 480 px.

*) medium-devices (tab) → min-width : 768 px.

* large-devices (Desktops) → min-width : 1024 px.

* Extra-large devices (Large Desktops) → min-width : 1200 px.

8) What is the purpose of the rem unit in media queries?
'rem' in media queries is beneficial because it makes the layout more adaptable to changes in the Root font size.

```
@media screen and (min-width: 40rem)
{
    style for screen wider than 40 times the root font
    size.
}
```

9) How can you combine multiple media query in CSS?
We can use logical operators like @ and, 'or' and 'not' to create complex conditions and also we can use commas.
and → all condition should be true.
or → any condition should be true.
not → negation of true, style will apply if condition is not true.

10) What is the significance of all keyword in media query?
is a type of media type that can be target all devices and media types.

11) How do you use media queries to apply style only for print stylesheet?
We should use 'print' media type in media query.
The @media print query wraps styles that are specifically assigned for print.

12) Difference b/w screen and print in media query?

| Screen | Print |
|---|---|
| * Used for styles included for screen such as computer, tablets mobile. | * Used for styles intended for printed pages, such as when a user prints a web page. |
| * These styles are applied when the content is being visualized on screen | * These styles are applied when the content is being printed. |

13) How can you hide an element or a specific screen size using media queries.

```
@media screen and (max-width: 600px) {
    .element {
        display: none;
    }
}
```

14) Explain the role of the orientation property in media queries.

The orientation property in media query is used to apply style based on the orientation of the device typically whether it is in portrait or landscape mode.

portrait : the height of the viewport is greater than or equal to the width (vertically).

landscape : The width of the viewport is greater than the height.

15) How do you target specific devices using media queries.

By combining different features such as screen, width, height, device type & resolution and orientation.

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

The not key word in media queries is used to negate the query, meaning it applies styles when the specified condition is not met.

17) How can you use media queries to adjust font-size for different screen size?

By specifying different font size within the media query blocks.

18) What is the box-sizing property in CSS and what does it control.

Box-sizing : It is the property in CSS control how the total width & height of an element are calculated including its content, padding and border.

19) Difference b/w content-box and border-box.

Content-box (Default): The width and height properties include only the content of the element, excluding padding & border.

border-box: The width and height properties include the content padding & border of the element.

20) How does the box-sizing property affect the calculation of an elements width and height in CSS?

Content box: width and height calculated excluding padding & border.

Padding-box: Width and height calculated including content padding & border of the element.

21) Why might you choose border-box as default for your project.

Simplifies the layout calculation, Enhances responsiveness, specified dimension include padding & border, And is a consistent design practice.

22) Difference between normalizing and resetting?

Resetting: It removes all the default styles, providing a blank canvas for styling but requiring more manual styling for elements.

Normalizing: Preserves useful defaults ensuring consistency across browsers, reducing the need for extensive manual styling but not starting with a completely blank slate.

23) What is a CSS combinators and how it is used in selector?

CSS combinator is a symbol used to define a relationship b/w elements in the HTML structure.

- ) Descendant Combinator (' ')
- ) Child combinator ('>')
- ) Adjacent sibling combinator ('+')
- ) General sibling combinator ('~')

24) Difference b/w descendant and child combinator in CSS selector- Provide examples for each

=> Descendant combinator: It select all elements that are descendant of a specified element regardless of how deeply nested they are.

eg: div p : Select all 'p' elements that are decendant of a 'div' element, regardless of how deeply nested the 'p' elements are inside div.

Child combinator (>): Selects all the elements that are direct children of a specified element, ignoring elements that are not direct children.

Ex: div > p : Selects all p that are direct children of a 'div' element excluding 'p' elements that are nested further inside the element.

25) Explain the purpose of adjacent sibling combinator in CSS provide a use case.

The adjacent sibling combinator (+) in CSS selects an element that directly follows another specified element. It is useful for styling element based on their immediate sibling relationship.

purpose: Is to apply styles specifically to an element that immediately follows an another specific element without selecting all siblings.

use case: When we have list of items and you want to highlight first item different from the rest, we can use adjacent sibling combinator (+).

26) Difference b/w general sibling combinator and adjacent sibling combinator.

Adjacent sibling '+': * Selects an element that is immediately preceded by a specific element.
* Only select the first matching adjacent sibling.

General sibling combinator (~)
* Select all elements that are sibling of a specified and share the same parent.
* Select all the matching siblings not just the immediately following one.

27) What is the significance of the child combinator (>)

It is like a filter that select and style only the immediate children of a specified parent element.
It helps to be more specific in targeting elements and ensure that styles don't affect nested element.

28). How can you select all the paragraphs that are direct descendants of a div using CSS selectors.

We can select all paragraph that are direct descendant of a 'div' using child combinator (>)

div > p

this selector targets all the 'p' element that are immediate children of a div. and ignore paragraph that are nested further inside other elements

29) Provide an example of using descendant combinator to style nested elements

div > p

the descendant combinator selects all 'p' element that are descendant of a 'div'

30) Explain how space b/w two selectors represents a descendant combinator.

Selecting elements of the second type that are descendants of the first type.

for example : div p

select all p nested inside a 'div'

31) How would you select an element that is the immediate next sibling of another element in CSS.

By using adjacent Sibling Combinator ('+')

32) In what scenarios would you choose one combinator over another, and what are combinators for efficient CSS selectors?

We use different type of combinator to keep selectors simple, specific and readable to maintain code clarity and performance, specificity.

33) Explain the concept of CSS pseudo selectors provide example of commonly used pseudo selector and their purpose.

The pseudo selector provides a way to style element based on user interaction, position in the document structure, and other dynamic state, enhancing the flexibility of CSS styling.

They allow you to style element based on criteria that cannot be expressed with regular selector alone.

There are keyword that are added to selector to target specific part of element.

-> :hover : Select and style an element when the user hover over it

-> :active : Select and style an element when it is being activated (on click)

-> :focus : Select and style an element that has focus eg input field

-> :first-child : select the first child element of a parent.

-> :nth-child(n) : select the element based on their position in a parent. They can be a specific no, a formula or keyword like (even) (odd)

-> :nth-of-type(n) : Similar to nth-child, but it selects element based on their position among sibling of the same type.

-> :not(selector) : Select elements that do not match the specified selector.

34) Difference b/w pseudo class and pseudo element in CSS. Give examples of each.

=> Pseudo class:

purpose : Select elements based on their state or user interaction.

=> Notation : pseudo classes are denoted with single colon : followed by pseudo class name

example : :hover, :focus, :active

→ Pseudo element :

purpose : select and style a specific part of element.

notation : 2 colon '::'

eg. : ::before
:: after
:: first-letter

35) How can you use the :nth-child pseudo-class to select specific elements in a list or container? with example

The :nth-child pseudo class allows to select elements based on their position within a parent container. It works for ordered arrangements allowing you to target specific elements in a list or container.

eg. ul li : nth child (odd) → select, all odd numbered list items (li) within a (ul) element

ex p :nth child (even) → select all even numbered (p) within a 'div'.