HTML

Answer 1 HTML
<!DOCTYPE html> is not a HTML tag, the DOCTYPE or document type tells the browser about the type of the document, in HTML5 <!DOCTYPE html> tells about the document type is written in HTML.

Answer 2HTML
The semantic tags in HTML are the tags who's function is same as the name of the tags. For example <header>, <nav>, <main> , <p> are some of the semantic tags in the html and they represent the header, navbar, the main content and the paragraph in a HTML document. It's easy to know their purpose but looking at their name only.
We need semantics for accessibility purposes such as screen readers and for the SEOs.

Answer 3 HTML
HTML tags are a pair of tags that consists of an opening tag and a closing tag and HTML elements are a pair of opening and closing tags with some content inside of it.
For example <button></button> are tags and <button> Home </button> is and element.

Answer 5 HTML
https://github.com/hianshul07/HTML-Q-5

Answer 6 HTML
There are several areas in which HTML5 is better than previous versions of HTML, such as

- Native support for media with <audio> and <video> tags.
- No long doctype declarations.
- Introduction of new semantic tags.
- HTML5 uses application cache and SQL to store temporary data instead of cookies.
- Support of Drag and Drop.

Answer 7 HTML
https://github.com/hianshul07/HTML-Q-7

Answer 9 HTML
HTML tags - HTML tags are used to create HTML elements.
HTML attributes - HTML attributes are the properties of the HTML tags. Some global HTML attributes are style attribute, id and class attribute etc.

Answer 10 HTML
https://github.com/hianshul07/HTML-Q-10

CSS

Answer 1 CSS

CSS box model - In CSS, every HTML element is wrapped with a box which consists of,

- Content - The actual content of the HTML element.
- Padding - The clear space between the content and the border.
- Border - As the name specifies this is a border which goes around the padding and the content.
- Margin - The clear space around the border.

Answer 2 CSS

We have different types of selectors in CSS for different requirements, following are some commonly used selectors.

- Element selectors - This will select the mentioned element, the p{} will select the <p> element.
- id selector - This will target the element based on it's id, #idName {} will target element with id idName.
- class selector - This will target the element or elements with the specific class.
- Decedent selector - This will target all the child elements of the specified element.
- Direct child selector - This will target only the direct children elements of the specified element.
- Universal selector - This will target everything on the webpage, it is used with *{}.

Answer 3 CSS

vh and **vw** stand for viewport height and viewport width respectively. These are relative units. 1vw stands for 1% of the total width of the viewport or the browser window and 1vh, the same as vh, stand for 1% of the total height of the viewport. On the other hand px is an absolute unit

which means it's value remains same across devices and platforms, 1px = 1 pixel length. Example -

```
html,
body {
  height: 100vh;
}
```

Here the body will be taking 100% height of the viewport.

Answer 4 CSS
Inline: Inline is a CSS property in which the element only takes as much space as its content. Setting height or width property on inline elements have no effects. Some examples of inline elements are , , etc.

Block: Elements with this property start on a new line and takes the full width of its parent element. You can set width and height properties to the block elements.
Some examples are <h1>, <p>, etc.

Inline-block: Elements with this property takes as much space as its content but you can set width and height on it.

Answer 5 CSS
Border-box: calculates the total width of an element by including the margin, padding and border properties in the mention width and same is used for calculating the total height of an element.

Content-box: Takes the height and width of the elememt and then adds the margin, padding and border separately. By default content-box property is set on the elements.

Answer 6 CSS

The Z-index is a CSS property which specifies the position of an element on the z-plane, this property is applied only on the elements with position or flex property already applied. By default, the z-index is set to auto and it's value can be set between auto or an integer. The element with z-index: 1 will be on top of the element with the z-index: auto.

Answer 7 CSS

The CSS grid and flex are two widely used layout systems. Both of these systems are responsive and easily allows the user to create functional layouts without using traditional methods like position and float.

CSS Grid -

- Let us create a layout in 2-D without using positioning and float.
- Grid is like an HTML table which lets us work in rows and columns.
- Is responsive.
- Grid is layout first which means you can define the layout first and then can create the elements

CSS Flex -

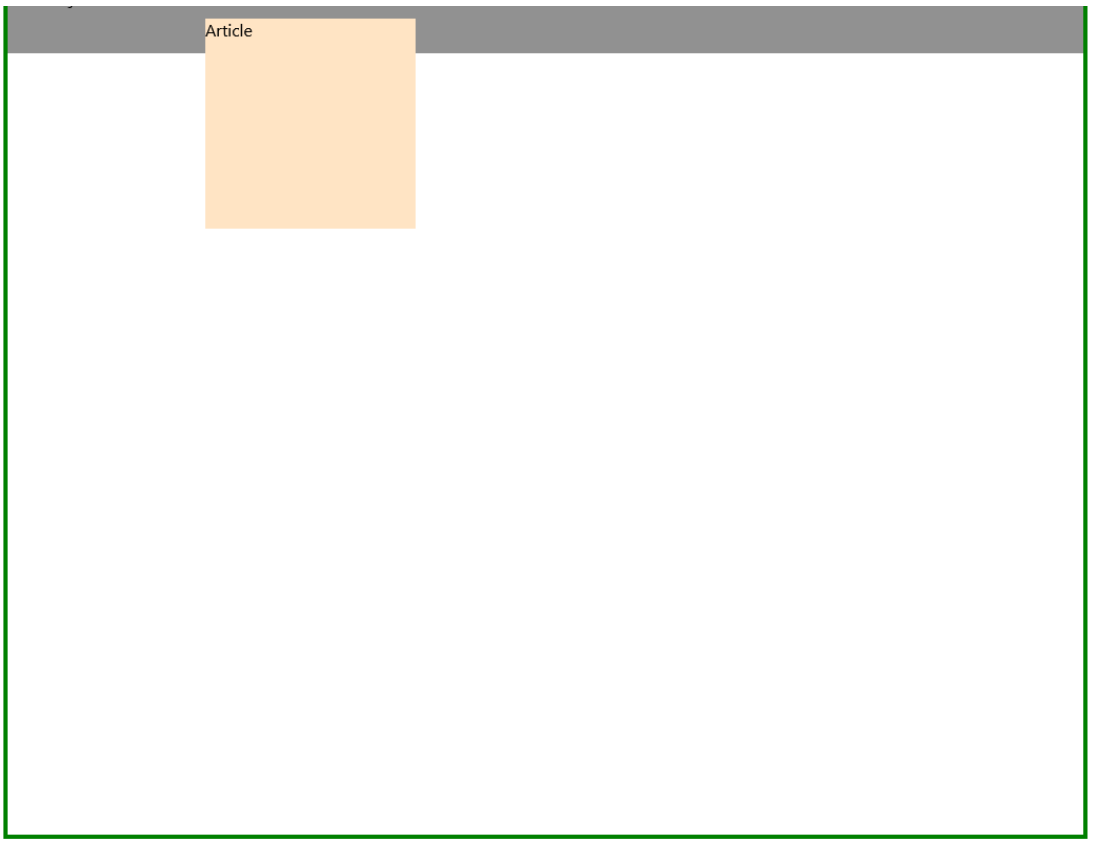
- This lets us create a layout in 1-D only.
- Like grid, flex is also responsive.
- Flex is content first where you have to define the elements first and then align them into a layout with flex.

Answer 8 CSS

CSS Position: The position is a CSS property that defines how an element is positioned on the webpage. We have 5 values in total. We then adjust the position of the element by using top, left, right, and bottom values. The element is using position: static by default. Below we'll see about the other 4 position values

- Position relative: The position of the element is adjusted using top, left, right and bottom, relative to its original position in the document.

- Position absolute: In this, no space is given to the element in the webpage flow and its position is adjusted relative to its immediate parent element.



- Positon fixed: With position fixed the position of the element is adjusted relative to the viewport.

- Position sticky: In this the element is placed in normal document flow but when a certain value is met the element is fixed to a certain position while scrolling relative to its closest parent element. It can be thought as a cross between static and fixed.

Answer 9 CSS
Periodic Table - https://github.com/hianshul07/CSS-Q-Periodic-table

Answer 10 CSS
Grid or Flex - https://github.com/hianshul07/CSS-Q-9-Grid-Flex

Answer 11 CSS
Responsive design -
https://github.com/hianshul07/CSS-Q-11-Responsive-layout

JavaScript

Answer 1 JavaScript
Hoisting - Hoisting is the process where the javascript engine automatically moves the function starting with the function keyword(not the arrow functions) and the variable declared with var keyword to the top of the JS file while compiling. The keyword in hoisting are initialized with the undefined value.

```
// Here the fucntion is declared after it's being invoced and it works, because of hoisting

console.log(add(2, 4));


function add(x, y) {
  return x + y
}
```

React

Answer 1 React
React is a JavaScript library which is used to create front-end part of the website. React is used because it provides certaine advantages like virtualDOM, building UI with smaller chunks called components and creating single-page applications.

Answer 2 React
Virtual DOM - React creates a copy of the actual DOM tree. The advantage of virtualDOM is that it only updates the components which are changed and not the whole webpage.

Answer 3 React
As we know that a component is the building block of a react app. As we interact with the react app the react component goes through several stages. These are -

- Initialize
- Mount
- Update
- Unmount

Answer 4 React
Authentication - The authentication is the process of verifying the identity of the user, It is done with the credentials such as email, password, OTP etc. It is done to check if the user is accessing only the account which is assigned to him only.

Authorization - The authorization is the process of giving user permission to access certain parts of a system. The Autorization part comes after authentication.

Answer 8 React
The JavaScript is single-threaded so to execute all operations seamlessly the NodeJS use something known as the event-loop. The

event loop is always looking for a process to be executed, when it finds an process the event-loop passes the process to the respective part of the code while also looking for any new processes.

Answer 12 React
https://github.com/hianshul07/React-Q-12