

Emergency Toolkit

Capture HTML Flag

٧. What are the differences between html4 and html5?

Ans: The html4 is the older version and html5 is the update version. Html 4 has no web socket and needs a script to link that refer to javascript. Also difficult to track user location. These all issues are solved in html5. Html 5 has multimedia support also script attributes not mandatory to link.

٨. What are semantic tags in html? Give me some examples.

Ans: Semantic tags: Those html tags clearly define it's meaning to both the browser and developer these are called semantic tags.

Some examples: <section> , <footer>, <article>, , <header>, <nav> etc.

٩. What is the purpose of Article, div, section, nav, aside?

Ans: The given tags are semantic tags. That defines how to wrap your content on html. Like footer is used to wrap footer content, article is used to wrap article, nav for navbar, which have no additional semantic used div, section used for a section and aside used for wrap sidebar and comment content.

١٠. Why will you use Meta tag?

Ans: Meta tag means metadata, that is information of data. Meta tag used for store viewport settings, page description, keyword, data author and specify character set.

١١. What is the difference between inline, inline-block, and block?

Ans:

Inline-block allows elements to set height and width and also have top and bottom margin and padding.

Inline element behavior is like an inline block element but it doesn't have any margin padding on top and bottom.

Block elements take full width and set a line break. That's why it can't sit on another element.

8. Difference between strong, b, bold, em, i?

Ans: strong render text as important . b render text as bold and i and em for italic.

9. What are properties and attributes in HTML?

Ans: Attributes are additional information which we can put in the html to initialize certain dom properties. Properties are formed when the browser parses the html and generates the dom. Each of the elements in the dom have their own set of properties which are all set by the browser. Attribute values can't change but property values can change.

10. What is a Viewport?

Ans: Viewport is the area of the window that was visible on the screen. If the window content is too much, the browser will show a scrollbar on the screen for scroll view. Without scroll which content we saw on the screen that was viewport.

9. Have you used Audio and Video tags? How do they work?

Ans: Yes I used audio and video tags. Audio tag is used for sound content on a document, music or audio streaming and video tag is used for video streaming or embed video content in a document. Within the audio tag different attributes like loop, muted, controls, autoplay, preload, source. Also video tag have different attributes like muted, loop, controls etc.

10. What is hyperlink in html? What tag and attribute will you use for hyperlink?

Ans: In html hyperlink means it's a word or button that points users into a link or another location. In html anchor tag is used for hyperlink.

11. What is the difference between HTML elements and tags?

Ans: For markup html element used tag which have enclosed by angle bracket. Whatever is written in a html tag that is an html element. Element can also contain attributes that define its additional properties.

12. What is charset in html? Why will you use it?

Ans: For html document charset specifies it's character encoding. It covers almost all the characters and symbols. That's why I use it.

Capture-CSS-Flag

٥. What Flex layout? Difference Flex and grid layout?

Ans: The more efficient way to layout, align, and distribute space among items in the container is called flex layout.

The main difference between flex and grid was flex has one dimensional layout row or column and grid has 2 dimensional layout row and column both.

٦. Explain CSS position property? What are some differences between absolute position and relative position?

Ans: To define an element position in a document use position property. Relative position define the element is positioned to its normal position and absolute position define element is position absolutely to its first positioned parent.

٧. What is a box model? And what are the different elements of a box model?

Ans: A box model is a box that usually wraps an html element which consists of margin, border, padding and actual content. The element of a box model is main content, margin, border, padding.

8. What is a Hover effect? What is the purpose of the active class?

Ans: Hover effect is the graphical interface of a component once the mouse is hovering over it. The active class is used to remind the user where in the website he is.

or What is pseudo-class?

Ans: Pseudo-class means a selector that selects elements that are in a specific state.

٩. What are the different types of Selectors in CSS?

Ans: CSS element selector, id selector, class selector, universal selector, group selector.

or Differences between Class selector from ID selector?

Ans: One element of the page applies a particular style using the ID selector. On the other hand, the Class selector is used for multiple elements in the same style.

٦. What is CSS Specificity?

Ans: CSS Specificity is the set of rules applied on css selectors that determines which style is applied on an element.

٩. What is a CSS Preprocessor? What are some benefits of Sass?

Ans: CSS Preprocessor is a program. Where css generates its own unique syntax, use the processor. Sass is an extension of css that enables you to use things like variables, nested rules, inline imports and more. It helps to keep things organized and allows creating style sheets faster. Also sass is compatible with all versions of css.

١٠. What is a Pseudo element? Give an example of pseudo element

Ans: Pseudo element is a keyword added to a selector that lets you style a specific part of the selected element. For example ::after, ::before used for a element after of before add content.

١١. How will you use media queries to make a website responsive?

Ans: Media queries use @media rule to include a block of css properties only if a certain condition is true. For example media query is used for website responsive that applied into its css when provided condition is true .. as like below code

```
@media only screen and (max-width: 600px) { body {background-color: lightblue;}}
```

In this condition upto width 600px background color was set as light blue.

١٢. How will you make font size responsive?

Ans: To make font size responsive use css font-size value in viewport size. When the viewport size changes, the font-size will change.

or What are some CSS Measuring units? Which one will you use?

Ans: em, px, rem, % etc are css measuring units. I will use px in maximum times.

11. Difference between transition and transform

Ans: Transform property in css moves the appearance of an element, but transition property seamlessly and gently transitions the element from one state to another state.

12. How will you horizontally and vertically center a div inside a div

Ans: To do this Give some styles in parent div. These are display - flex and align-items and justify-content - center. This style makes the child div as center horizontally and vertically center.

Capture-js-flag

5. How does JavaScript work?

or What is the JavaScript Event Loop?

Or Though JavaScript is single-threaded, how does it handle concurrent work?

Or Is JavaScript Single-threaded or multi-threaded?

Or Is JavaScript Synchronous or asynchronous?

Ans: JavaScript is a synchronous, blocking, single-threaded language. That means only one operation can progress at a time. Cause of single-threaded it is synchronous in nature. JavaScript has a runtime model based on an event loop, which is responsible for executing the code, collecting and processing events, and executing queued sub-tasks. The source code is passed through a program called a compiler, which translates it into bytecode that the machine understands and can execute. In contrast, JavaScript has no compilation step. Instead, an interpreter in the browser reads over the JavaScript code, interprets each line, and runs it.

6. How does JavaScript code is executed in Browser?

Ans: Browser's built-in interpreter searches for script tag or .js file linked with an HTML file while loading a web page, and then interpretation and execution start.

7. What are the differences between "==" and "===" ?

Ans: "==" used for comparing two variables but ignore variable data type.

"===" is used for comparing two variables also check their data types.

8. What is a callback function?

Ans: Callback function is a function. It has call a function inside it and execute some action according to inside function.

๕. When will you return something from a function?

Or How will you return more than one value from a function?

Ans: When we need a return value from a function then we use return into a function. To return more than one value from a function we can return these as a element of array or properties of object.

๖. Tell me about bind, call and apply.

Or How many arguments does call apply bind take?

Ans: Call and apply both are very similar method that execute the bound function on the object immediately on the other hand bind method doesn't execute function immediately. Bind method create and returns a bound function that can be executed later.

๗. What is a Closure in JavaScript? How does it work?

Ans: Clouser means it is a inner function and always has access to it's outer function var and parameters. Closures are typically implemented with a special data structure that contains a pointer to the function code, plus a representation of the function's lexical environment at the time when the closure was created.

๘. What does the "this" keyword indicate in JavaScript?

Ans: This keyword indicate to an object in javascript.

๙. What is Event bubbling in js? Or How does event delegate work in JS?

Ans: Event bubbling and capturing are two ways of event propagation in the HTML DOM API, when an event occurs in an element inside another element, and both elements have registered a handle for that event.

With bubbling, the event is first captured and handled by the innermost element and then propagated to outer elements.

With capturing, the event is first captured by the outermost element and propagated to the inner elements.

50. Explain hoisting in JavaScript.

Ans: Hoisting in javascript is a behaviour of a function or variable can be used before declaration.

51. What is a recursive function function

Ans: Recursive functions in code often rely on loop setups, where the initial variable is called on multiple times while being altered by the loop.

52. Difference between undefined and null

Ans: Undefined is a global object. It doesn't exists in the compiler. On the otherhand null is the primitive value of javascript. Null is the intentional absence of the value.

53. What are the different data types in JavaScript?

Or Primitive data type and non-primitive data type

Ans: Primitive data types are number, string, undefined, null, boolean, symbol. On the otherhand non-primitive data types are only object

58. What is DOM

Ans: DOM means document object model. DOM is a standart for accessing document. For dynamically access and update the content , structure, and style of a document which platform is used that allows programs and script are called dom.

54. Is JavaScript a static type or a dynamic type?

Or How will you know the type of a JavaScript variable?

Ans: JavaScript is dynamically typed language. For know a JavaScript variable type use typeof operator.

Capture-es6-flag

5. Tell me about Es6

Or what ES6 features did you use?

Ans: ECMA Script programming language version 6 is called ES6. This is the newer version of javascript programming languages after releasing version 5. To make large-scale software development easier add many more features in javascript languages.

I usually maximum time use ES6 arrow function features. It provides a more concise syntax for writing function expressions by removing the function and return keyword.

٣. What are the differences between var, let, and const?

Ans: Var is available globally when a variable is declared outside a function. But it has a functional scope when it is declared within a function. Let enables the users to define variables and on the other hand, const enables to define constants. Var hoisted to the top means var can be used before declaration. Let and const have block scope that's why it can't be used before declaration.

٤. Why will you use default parameters?

Ans: When an argument is either omitted or an undefined default parameter is used. It allows us to initialize the function with default values.

8. How does the Spread operator work?

Ans: The spread operator allows us to quickly copy a part of an array or copy the total array from an existing array. The spread operator is commonly used to make shallow copies of the javascript objects.

٤. Difference between class and object

Ans: Class is a template for creating objects, logical entities and doesn't allocate memory space. On the other hand, the object is an instance of a class, it's a physical entity and also allocates memory space.

٥. What is a Prototype chain?

Or how does inheritance work in JavaScript?

Ans:

JavaScript only has one construct: objects. Each object has a private property which holds a link to another object called its prototype. That prototype object has a prototype

of its own, and so on until an object is reached with null as its prototype. By definition, null has no prototype, and acts as the final link in this prototype chain.

Prototype inheritance is a features of javascript that used to add method and properties into an object. It is a method by which an object can inherit the properties and methods of another object.

৭. Explain Call by value vs call by reference

Ans: Call by value the original value is not modified, a copy or a variable is passed and actual and formal argument will created in different memory location but call by reference the original value is modified, a variable is passed itself and actual and formal argument will created in same memory location.

৮. What is scope in JavaScript?

Or Explain JavaScript scope, Block scope, and global scope?

Or Block scope and global scope, Lexical scope এর পার্থক্য

Ans: In javascript scope means where variable, function and object are accessible in code during runtime. Local scope declared inside block and global variable declared outside of block.

৯. What is a Higher-order Function?

Ans: A higher-order function is a function that accepts function as parameters and returns a function.

১০. What is API? Difference between Get vs post?

Ans: API means application programming interface. API is a software intermediary that allows two applications to talk each other. Get is used to retrieve remote data and post is used to insert update remote data.

১১. Difference between local storage and Session storage

Ans: Local storage data is stored in browser locally and this data is available after reload page. But session storage data is available only the session runtime. After closing browser this data can't be found anymore.

১২. What are cookies? And why will you use it?

Ans: Cookies is a text file with small pieces of data. Cookies let websites remember user, user logins, shopping carts and more. That's why i will use it.

57. What is object-oriented programming?

Ans: Object-oriented programming based on the concept of objects. It can contain data and code. Data is the form of fields and code is the form of procedures. The features of object is that procedures are attached to them and can access and modify the object's data.

58. Difference between Array vs LinkedList.

Ans: An array is a collection of elements of a similar data type. Linked List is an ordered collection of elements of the same type in which each element is connected to the next using pointers. Array elements can be accessed randomly using the array index. Random accessing is not possible in linked lists.

59. How will you debug a JavaScript application

Ans: to debug a javascript using console.log(). Also using debugger. The debugger keyword stops the execution of the code and calls the debugging function. Also use breakpoints. To set a breakpoints for javascript code in the debugger window can be debug javascript application.

Capture-reactjs-flag

5. What is reactjs? Tell us about advantages and disadvantages of using react js.

Ans: ReactJs is a open source javascript library. The library is used for web app development and is designed to help developers create fast single-page applications and user interfaces.

2. Why will you select ReactJS?

Or there are so many different javascript frameworks. Why will you use ReactJS for your application

Ans: React is a efficient and flexible JavaScript library for building user interfaces as defined by its creators. Simply put, it allows to create fast and simple frontend for web application.

9. What is Virtual dom? What are the differences between virtual and real dom?

Or what is the diff algorithm? How does it work

Ans: Virtual dom is a lightweight version of the DOM. The only difference is the ability to write the screen like the real DOM, in fact, a new virtual DOM is created after every re-render. DOM stores the components of a website in a tree structure. On the first run, both virtual DOM and real DOM tree are created. React works on observable patterns, hence, whenever there is a change in the state, it updates the nodes in the virtual DOM. Then, React compares virtual DOM with the real DOM and updates the changes.

8. Differences between props and state?

Or How will you pass data from parent to child

Or Can you change props?

Or is Props readonly

Ans: To pass data one component to another component props are used. But the state is a local data storage that is local to the component and can't be passed to another component. To pass data from parent to child use props. A component can't change its own props but can update its state and children props.

9. What is the purpose of useState? When and why will you use it?

Or Manage state

Ans: useState is a hook that allows state variable into a functional component. Pass the initial state to this function and it returns a variable with the current state value and another function to update this value.

10. What is a context API? How does it work?

Or What is the best way to pass data 4-5 layers down?

Or What is prop drilling?

Ans: Context API is a way to effectively produce global variables that can be passed around. Context API is the alternative to prop drilling. Moving props from grandparent to child to parent and so on is used context API.

Prop drilling is the unofficial term for passing data through several nested children components.

9. Difference between `useEffect` and `useState`?

Or why do we need to inject dependency for `useEffect`

Ans: `useState` allows functional components which used to be stateless become stateful. `useEffect` hooks perform side effect in functional component.

10. What is JSX? How does it work

Ans: JSX is a syntax extension to javascript used in reactjs that allows writing javascript that looks similar to html. JSX stands for javascript XML. In other words, it is a kind of templating language but with the power of javascript. JSX allows us to write HTML elements in JavaScript and place them in the DOM without any `createElement()` or `appendChild()` methods. JSX converts HTML tags into react elements. JSX makes it easier to write React applications.

11. Tell us about React Component lifecycle

Ans: React Component can go through four stages of its life . The stages are initialization, mounting , updating and unmounting.

12. What is the purpose of a custom hook? How will you create a custom hook? Give us an example.

Ans: Custom Hook is a JavaScript function, custom hook start with the word “use”. To share logic between other JavaScript functions. It allows you to reuse some piece of code in several parts of react app.

13. How would you optimize a react js application

Or How would you prevent unnecessary component re-render in reactjs?

Optimize a react js application the process are using Immutable Data Structures, Function/Stateless Components, Multiple Chunk Files, Avoid Inline Function Definition in the Render Function, Avoid using Index as Key for map and many more.

Optimize React rendering, make sure that components receive only necessary props. It will control the CPU consumption and avoid over-rendering unnecessary features. The

solution is to create a functional component that will collect all props and redistribute them to other components.

Capture-reactjs-flag2

1. How will you send data from a Child Component to the parent component?

Ans: To send data from a child component to the parent component, first in the parent component, create a callback function. This callback function will retrieve the data from the child component. Then pass the callback function to the child as props from the parent component. Then child component calls the parent callback function using props and passes the data to the parent component.

2 . What is the best way to send 4 or more props to a child component?

Ans: To send 4 or more props to a child component individually passed props into child component or if passed all props without type individually use spread operator to passed all props together.

3. What is Redux and and what is the purpose of Redux?

Ans: Redux is a predictable state container designed to write JavaScript apps that behave consistently across client, server, and native environments and are easy to test. While it's mostly used as a state management tool with React.

4. What is React native? What do you know about React Native?

Ans: React Native is used for building user interface components. React Native can render UI across different platforms, not just on the browser also web based apps. React Native used to build apps for Android, iOS, macOS, and Windows.

5. What are Higher order components? Give us an example.

Ans: For reusing component logic higher order components is a advance technique in react. Higher order component is a function that takes a component and return a new component. Higher order components used for adding additional functionalities to the existing component. These functions are pure, which means they are receiving data and returning values according to that data. If the data changes, higher order functions are re-run with different data input.

6. Is there any reason to return something from a useEffect hook?

Ans: When code runs and reruns for every render, useEffect also cleans up after itself using the cleanup function. The return function is the cleanup function, or when the user leaves the page and the component will unmount.

7. How will you optimize a react application?

Ans: Optimize a react application is to be follow some steps...

1. Using Immutable Data Structures
2. Function/Stateless Components and React
3. Avoid Inline Function Definition in the Render Function
4. Avoid using Index as Key for map etc.

8. What are the different ways to manage state in a React Application

Ans: There are four ways to manage state in a react application. These are local state, global state, server state, url state.

9. Why do we inject dependency inside a useEffect hook?

Ans: useEffect hook have two argument callback and dependency array. callback argument is a function to put the side-effect logic. dependencies is a list of dependencies of side-effect. useEffect always runs after render has run by default. The dependency array in useEffect lets specify the conditions to trigger it. If you provide useEffect an empty dependency array, it'll run exactly once. Dependency ensure useEffect only run if dependency will change.

10. How will you prevent re-render in react applications?

Ans: To prevent re-render in react application use dependency or use empty array as dependency in useEffect hooks. Empty array tell React to run useEffect on the first render

11. Tell me some disadvantages of Reactjs

Ans: The mix of html and javascript in JSX makes reactjs more difficult to learn. Reactjs have seo problems cause of google used to have problems with indexing websites that were rendered on the client-side.

12. Does React perform one-way data binding or two way data binding?

Ans: React perform one-way data binding. Cause of react is a javascript library and uses unidirectional data-flow.

Capture-nodejs-mongodb-flag

1. What is Nodejs

Ans: Nodejs is a javascript runtime powered by chrome v8 engine which can run webserver outside browser.

2. Node vs javascript

Ans: NodeJS is a Javascript runtime environment. We can run Javascript outside the browser with the help of NodeJS. Nodejs does not have the capability to add HTML tags. It is mostly used on the server-side. On the other hand, javascript is a programming language that is used for writing scripts on the website. Javascript can only be run in the browsers. Javascript is capable enough to add HTML and play with the DOM. It is basically used on the client-side.

3. Nodejs single-threaded or multi threaded

Ans: Node.js is single-threaded because the javascript programming language is single-threaded. We can run things in parallel, but we don't create threads or sync them.

4. NodeJs ব্লকিং বা নন-ব্লকিং কাজ করে

Ans: Node work as non-blocking.

5. What is Npm

Ans: Npm means Node package manager. It's the world's largest software registry. For package installation, version management, and dependency management use the npm command line utility.

6. What is the purpose of a database?

Ans: Database is the stock of data. The database is organized to be easily accessed, managed, and updated from relational databases to cloud databases.

7. sql vs nosql মধ্যে পার্থক্য কি? কোনটা বেশি ব্যবহার হয়

Ans: SQL(Structured Query Language) is a standard programming language employed in relational databases management and executing essential operations on their data. These databases are best suited for complex queries. It is vertically scalable. NoSQL databases are called non-relational database systems. These databases are not so good for complex queries. It is horizontally scalable.

SQL is used more than NoSQL.

8. রিয়েক্ট এর সাথে node, Mongodb কেন ইউস করা হয়েছে MySql কেন নয়?

Ans: Node is JavaScript, which you are already using (with React). Don't need to invest in any other languages. Using the same language allows for true code sharing between server-side and client-side code. MongoDB represents the data as the collection of documents. So that node MongoDB is used in react.

9. Database design, database schema design বলতে কি বুজো?

Ans: The designer determines what data must be stored and how the data elements interrelate. Database schema design organizes the data into separate entities, determines how to create relationships between organized entities, and how to apply the constraints on the data.

10. সার্ভার সাইট ক্রাশ করলে কি করবেন?

Ans: If the server site is crushed try to find out the problems. There is a number of error messages that could appear on the screen based on the type of error. Take necessary steps against the error message.

11. API কিভাবে কাজ করে

Ans: API means application program interface. Basically, API is used for sharing some data from one program to another program. API specifies how software components should interact.

12. What is CRUD

Ans: CRUD means create, read, update and delete. The technique is used for identifying use cases.

13. Get vs post

Ans: GET is used for viewing something without changing and POST is used to insert/update remote data.

14. PUT and Patch এর মধ্যে পার্থক্য কি?

Ans: To update one field for the resource used the patch method. Put update document if exist and if data does not exist put create a new one.

15. How will you secure an API

Ans: To secure API generate an API key and apply jwt verification and use jwt verification as middleware.

16. Mongoose কি? কীভাবে কাজ করে? এটা নিয়ে কাজ করেছো কিনা

Ans: Mongoose is an object data modeling library for MongoDB. Mongoose provides us are schemas to structure and model out data and relationships, easy data validation, simple query APIs, and much more.

17. What is webpack

Ans: Webpack is useful for single-page applications. Webpack is a module bundler. It takes disparate dependencies, creates modules for them, and bundles the entire network up into manageable output files.