**JavaScript Interview Questions**

1. **What are the differences between null and undefined?**

undefined means, value of the variable is not defined

null means empty or non-existent value which is used by programmers to indicate “no value”.

1. **Is there any difference between window and document?**

Yes. JavaScript has a global object and everything runs under it. window is that global object that holds global variables, global functions, location, history everything is under it.

1. **What is a Callback function?**

A Callback function is a function that is gonna get called at a later point in time.

1. **What are Promises?**

Promises are one way in handling asynchronous operations in JavaScript.

Promises were made to solve the problem of doing and dealing with async code before promises we're using callbacks.

1. **Difference between slice & splice method?**

slice returns the sliced array but don't change the original array

splice change the original array

1. **Difference between map & filter method?**

Map returns new array by executing the callback function for each elements of the array

In filter, if the condition is true for an element, element is picked for the return array

1. **What is the reduce method?**

reduce cache the value. For example you want to get the sum of all the elements. alternatively, you can initially.

1. **What is async/await?**

async/await is the new way of writing asynchronous or non-blocking code in JavaScript. It is built on top of Promises. It makes writing asynchronous code more readable and cleaner than

1. **What is the event bubble?**

When an event occurs on a DOM element, that event does not entirely occur on that just one element. In the Bubbling Phase, the event bubbles up or it goes to its parent, to its grandparents, to its grandparent's parent until it reaches all the way to the window.

1. **What are the ways to deal with Asynchronous Code in JavasScript?**

Callbacks, Promises, async/await, Libraries like async.js, bluebird, q, co

1. **What's the difference between event.preventDefault() and event.stopPropagation() methods?**

The event.preventDefault() method prevents the default behavior of an element.

While the event.stopPropagation() method stops the propagation of an event or it stops the event from occurring in the bubbling or capturing phase.

1. **What is the use of "use strict"?**

"use strict" is a ES5 feature in JavaScript that makes our code in Strict Mode in functions or entire scripts. Strict Mode helps us avoid bugs early on in our code and adds restrictions to it.

1. **What's the value of this in JavaScript?**

Basically, this refers to the value of the object that is currently executing or invoking the function.

1. **What is an IIFE?**

An IIFE or Immediately Invoked Function Expression is a function that is gonna get invoked or executed after its creation or declaration

1. **What is the usage of bind method?**

The bind method returns a new function that is bound

to a specific this value or the "owner" object, So we can use it later in our code.

1. **What is ECMAScript?**

ECMAScript is a standard for making scripting languages which means that JavaScript follows the specification changes in ECMAScript standard because it is the blueprint of JavaScript.

1. **What are the new features in ES6 or ECMAScript 2015?**

Arrow Functions, Classes, Template Strings, Object Destructuring, Generators, Promises, Modules, Rest and Spread, Block Scoping with let and const.

1. **What's the difference between var, let and const keywords?**

Variables declared with var keyword are function scoped.

Variables declared with let and const keyword are block scoped.

1. **What are Arrow functions?**

Arrow Functions are a new way of making functions in JavaScript.

Arrow functions don't have access to the arguments object.

Arrow functions don't have their own this value

1. **What are Template Literals?**

Template Literals are a new way of making strings in JavaScript. We can make Template Literal by using the backtick or back-quote symbol.

1. **What is Object Destructuring?**

Object Destructuring is a new and cleaner way of getting or extracting values from an object or an array.

1. **What are Default Parameters?**

Default Parameters is a new way of defining default variables in JavaScript that is available in the ES6 or ECMAScript 2015 Version.

1. **How to check if a value is an Array?**

We can check if a value is an Array by using the Array.isArray method available from the Array global object.

1. **What is Object.freeze?**

Object.freeze method to an object, that object's properties are immutable meaning we can't change or edit the values of those properties.

1. **What does the new keyword do?**

The new keyword is used with constructor functions to make objects

in JavaScript.

**AngularJS Interview Questions**

1. **What are the uses of controllers in AngularJS?**

Setting the initial state of the $scope object

Adding behavior to the $scope object

1. **What is the module in AngularJS?**

A module is a container for the different parts of the application like a controller, services, filters, directives, etc. It is treated as a main() method.

1. **What is the difference between ng-if and ng-show/ng-hide?**

The ngIf directive removes or recreates a portion of the DOM tree based on an expression

The ngShow directive shows or hides the given HTML element based on the expression provided to the ngShow attribute.

1. **What is Dependency Injection?**

Dependency Injection is a software design in which components are given their dependencies instead of hard coding them within the component. It relieves a component from locating the dependency and makes dependencies configurable.

1. **What is the factory method in AngularJS?**

Factory method is used for creating a directive. Whenever the compiler matches the directive for the first time, the factory method is invoked.

1. **What is $rootScope in AngularJS?**

An application can contain only one $rootScope, which will be shared among all its components. Every other scope is considered as its child scope. It can watch expressions and propagate events. By using the root scope, one can set the value in one controller and read it from the other controller.

1. **What is $watch?**

In angularJS, $watch() function is used to watch the changes of variables in $scope object. Generally, the $watch() function is created internally to handle variable changes in the application.

**React Interview Questions**

1. **What is the virtual DOM?**

React keeps a lightweight representation of the real DOM in the memory, and that is known as the virtual DOM. When the state of an object changes, the virtual DOM changes only that object in the real DOM, rather than updating all the objects.

1. **How Virtual DOM works?**

Whenever any underlying data changes, the entire UI is re-rendered in Virtual DOM representation.

Then the difference between the previous DOM representation and the new one is calculated.

Once the calculations are done, the real DOM will be updated with only the things that have actually changed.

1. **Why does React use className over class attribute?**

class is a keyword in JavaScript, and JSX is an extension of JavaScript. That's the principal reason why React uses className instead of class. Pass a string as the className prop.

1. **What are the different phases of the component lifecycle?**

Mounting: The component is ready to mount in the browser DOM. This phase covers initialization from constructor(), getDerivedStateFromProps(), render(), and componentDidMount() lifecycle methods.

Updating: In this phase, the component get updated in two ways, sending the new props and updating the state either from setState() or forceUpdate(). This phase covers getDerivedStateFromProps(), shouldComponentUpdate(), render(), getSnapshotBeforeUpdate() and componentDidUpdate() lifecycle methods.

Unmounting: In this last phase, the component is not needed and get unmounted from the browser DOM. This phase includes componentWillUnmount() lifecycle method.

1. **What is the use of render() in React?**

It is required for each component to have a render() function. This function returns the HTML, which is to be displayed in the component.

1. **What is a state in React?**

The state is a built-in React object that is used to contain data or information about the component. The state in a component can change over time, and whenever it changes, the component re-renders.

1. **How do you update the state of a component?**

We can update the state of a component by using the built-in ‘setState()’ method

1. **What are props in React?**

Props are short for Properties. It is a React built-in object that stores the value of attributes of a tag and works similarly to HTML attributes.

1. **What is the use of refs?**

The ref is used to return a reference to the element. They should be avoided in most cases, however, they can be useful when you need direct access to the DOM element or an instance of a component.

1. **What are controlled components?**

A component that controls the input elements within the forms on subsequent user input is called Controlled Component, i.e, every state mutation will have an associated handler function.

1. **What are uncontrolled components?**

The Uncontrolled Components are the ones that store their own state internally, and you query the DOM using a ref to find its current value when you need it. This is a bit more like traditional HTML.

1. **What is Lifting State Up in React?**

When several components need to share the same changing data then it is recommended to lift the shared state up to their closest common ancestor.

1. **What are Higher-Order Components?**

A higher-order component (HOC) is a function that takes a component and returns a new component. Basically, it's a pattern that is derived from React's compositional nature.

1. **What is the purpose of using a super constructor with a props argument?**

A child class constructor cannot make use of this reference until super() method has been called. The same applies for ES6 sub-classes as well. The main reason for passing props parameter to super() call is to access this.props in your child constructors.

HTML and CSS

1. **What is doctype? Why do you need it?**

The doctype is an instruction to the browser to inform about the version of the html document and how browser should render it.

1. **What is the difference between span and div?**

The div is a block element and span is an inline element.

1. **What is semantic HTML?**

Semantic HTML, or "semantically-correct HTML", is HTML where the tags used to structure content are selected and applied appropriately to the meaning of the content.

1. **What are the properties related to the box model?**

Everything in a web page is a box where you can control size, position, background, etc. Each box/ content area is optionally surrounded by padding, border and margin. When you set height and width of an element, you set content height and width.

1. **What are the differences between visibility hidden and display none?**

display: none removes the element from the normal layout flow and allows other elements to fill in. visibility: hidden tag is rendered, it takes space in the normal flow but doesn't show it.

1. **Do css properties are case sensitive?**

No

1. **Does margin-top or margin-bottom have an effect on inline elements?**

No

1. **Does overflow: hidden create a new block formatting context?**

Yes

1. **How could you apply css rules specific to a media?**

@media (max-width: 700px){...} means you want to apply rules to those media whose max-width is 700 px. this means every smaller device will have this rule.

@media (max-width: 700px) and (orientation: landscape){...} will apply rules for media smaller than 700px and in landscape orientation.

1. **How do you align a p center-center inside a div?**

text-align: centerwill do the horizontal alignment but vertical-align: middle will not work here. there are couple of different ways to solve this problem and one of them are positioning. You make the parent as relative position and child as absolute positioning.