



# TOP 50 QUESTIONS



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## Q 1. What is React?

**Ans:** React is an open-source JavaScript library for building user interfaces or UI components, developed by Facebook.

## Q 2. Explain JSX

**Ans:** JSX (JavaScript XML) is a syntax extension for JavaScript recommended by React for describing what the UI should look like.

## Q 3. What is the virtual DOM?

**Ans:** The virtual DOM is a lightweight copy of the actual DOM in memory. React uses it to improve performance by updating only the changed parts of the actual DOM.

## Q 4. What is the significance of keys in React?

**Ans:** Keys are used to uniquely identify and differentiate between components in React. They help React identify which items have changed, added, or removed.



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### **Q 5. What are state and props in React?**

**Ans:** State is an internal data store that belongs to a specific component, and it can be changed over time. Props are properties passed to a component from its parent, and they are immutable.

### **Q 6. What is the difference between state and props?**

**Ans:** State is internal to a component and can be changed over time, while props are external and passed to a component.

### **Q 7. Explain the concept of lifting state up.**

**Ans:** Lifting state up is a pattern where the state of a child component is moved to its parent component, allowing multiple child components to share the same state.

### **Q 8. What is the purpose of setState in React?**

**Ans:** setState is used to update the state of a component and trigger a re-render.



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### **Q 9. What is React Router?**

**Ans:** React Router is a library that enables navigation among views in a React application, allowing for the development of single-page applications.

### **Q 10. Explain the useEffect hook.**

**Ans:** The useEffect hook in React is used for side effects in functional components, such as data fetching, subscriptions, or manually changing the DOM.

### **Q 11. What are controlled components in React?**

**Ans:** Controlled components are components where the form data is controlled by React state. The input elements receive their current value from the state and have their value updated through a callback function.

### **Q 12. What is Redux, and why is it used?**

**Ans:** Redux is a state management library for JavaScript applications, commonly used with React. It helps manage the state of an application in a predictable way.



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**Q 13. Explain the concept of higher-order components (HOC).**

**Ans:** Higher-order components are functions that take a component and return a new component with additional features or props.

**Q 14. What is the purpose of the useReducer hook?**

**Ans:** The useReducer hook is used for managing complex state logic in React applications. It is an alternative to useState when state transitions are more complex.

**Q 15. What is the significance of the key attribute in React lists?**

**Ans:** The key attribute is used to uniquely identify elements in a list. It helps React efficiently update the DOM when the list changes.

**Q 16. What is the difference between class components and functional components?**

**Ans:** class components use ES6 classes and have additional features like state and lifecycle methods, while functional components are simpler and are often used with hooks.



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### **Q 17. Explain the concept of refs in React.**

**Ans:** Refs are used to access the DOM directly or to reference a React element. They provide a way to interact with the underlying DOM nodes in React.

### **Q 18. What are React hooks?**

**Ans:** React hooks are functions that allow functional components to use state, lifecycle methods, and other React features.

### **Q 19. Explain the purpose of the useContext hook.**

**Ans:** The useContext hook is used to access the value of a React context within a functional component.

### **Q 20. What is the significance of the dangerouslySetInnerHTML property in React?**

**Ans:** dangerouslySetInnerHTML is used to inject HTML directly into a component, but it should be used with caution to avoid cross-site scripting (XSS) vulnerabilities.



**Q 21. What is the purpose of the `componentDidMount` lifecycle method?**

**Ans:** `componentDidMount` is invoked immediately after a component is mounted, making it suitable for initial AJAX requests or setting up subscriptions.

**Q 22. What is the React developer tool?**

**Ans:** The React Developer Tools is a browser extension that allows developers to inspect and debug React component hierarchies in the Chrome and Firefox browsers.

**Q 23. Explain the concept of context in React.**

**Ans:** Context provides a way to pass data through the component tree without having to pass props manually at every level. It is often used to share values like themes or authentication status.

**Q 24. What are the advantages of using React?**

**Ans:** React offers a virtual DOM for improved performance, a component-based architecture for modular development, and a strong community support, among other advantages.



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## **Q 25. How does React handle prop drilling, and how can it be avoided?**

**Ans:** Prop drilling occurs when props are passed down through multiple levels of components. It can be avoided by using context or state management libraries like Redux.

## **Q 26. What is the purpose of the shouldComponentUpdate method?**

**Ans:** shouldComponentUpdate is a lifecycle method that determines if a component should re-render. Developers can use it to optimize performance by preventing unnecessary renders.

## **Q 27. Explain the significance of React Fragments.**

**Ans:** React Fragments allow developers to group multiple elements without adding an extra node to the DOM, helping to keep the structure clean.

## **Q 28. What is the significance of the key prop in React Router?**

**Ans:** The key prop in React Router is used to force the remounting of a component when the key changes, ensuring that the component is fully reinitialized.



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### **Q 29. What is the purpose of the forwardRef function in React?**

**Ans:** forwardRef is used to forward refs through components, allowing parent components to interact with the child's DOM node.

### **Q 30. Explain the concept of error boundaries in React.**

**Ans:** Error boundaries are components that catch JavaScript errors anywhere in their child component tree and log those errors, display a fallback UI, or take other actions.

### **Q 31. What is the significance of the memo function in React?**

**Ans:** memo is a higher-order component that memoizes the rendering of a functional component, preventing unnecessary re-renders if the props have not changed.

### **Q 32. How does React handle forms?**

**Ans:** React handles forms by using controlled components, where form data is controlled by the React state.



### **Q 33. Explain the purpose of the useMemo hook.**

**Ans:** The useMemo hook is used to memoize the result of a function, preventing unnecessary calculations and improving performance.

### **Q 34. What is the significance of the useCallback hook?**

**Ans:** useCallback is used to memoize callback functions, preventing them from being recreated on every render.

### **Q 35. What are React portals?**

**Ans:** React portals provide a way to render children into a DOM node that exists outside the parent component's hierarchy.

### **Q 36. Explain the concept of suspense in React.**

**Ans:** Suspense is a feature in React that allows components to "wait" for something before rendering, such as data fetching or code splitting.



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**Q 37. What is the purpose of the useEffect cleanup function?**

**Ans:** The cleanup function in useEffect is used to perform cleanup tasks, such as unsubscribing from subscriptions or clearing intervals, when a component is unmounted.

**Q 38. How does React handle routing?**

**Ans:** React can handle routing using the React Router library, which provides a way to navigate between different views or pages in a React application.

**Q 39. What is the purpose of the useLayoutEffect hook?**

**Ans:** useLayoutEffect is similar to useEffect, but it fires synchronously after all DOM mutations. It is often used for measuring and synchronizing layout.

**Q 40. Explain the concept of lazy loading in React.**

**Ans:** Lazy loading is a technique where components or modules are loaded only when they are actually needed, improving initial load times.



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### **Q 41. What is the significance of the React.memo function?**

**Ans:** React.memo is a higher-order component that memoizes the rendering of a functional component, preventing unnecessary re-renders if the props have not changed.

### **Q 42. How does React handle code splitting?**

**Ans:** React supports code splitting, allowing developers to split their code into smaller chunks that are loaded on demand, improving performance by reducing the initial bundle size.

### **Q 43. What is the purpose of the useImperativeHandle hook?**

**Ans:** useImperativeHandle is used to customize the instance value that is exposed when using React.forwardRef.

### **Q 44. Explain the concept of the useDebugValue hook.**

**Ans:** useDebugValue is used to display a label for custom hooks in React DevTools.



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### **Q 45. What is the purpose of the useState hook?**

**Ans:** The useState hook is used to add state to functional components in React.

### **Q 46. Explain the significance of the SuspenseList component in React.**

**Ans:** SuspenseList is a component that allows developers to coordinate the loading of multiple components in a way that provides a better user experience.

### **Q 47. What is the significance of the react-scripts package in a React application?**

**Ans:** react-scripts is a set of scripts and configurations used by Create React App to set up and manage a React project without the need for complex configuration.

### **Q 48. Explain the concept of error boundaries in React.**

**Ans:** Error boundaries are components that catch JavaScript errors anywhere in their child component tree and log those errors, display a fallback UI, or take other actions.



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### **Q 49. What is the purpose of the useReducer hook?**

**Ans:** useReducer is a hook in React used for state management in functional components. It is particularly useful when the state logic is complex and involves multiple sub-values or when the next state depends on the previous state.

### **Q 50. How does React handle forms?**

**Ans:** React handles forms using controlled components, where the form elements are controlled by React state. This allows React to be the single source of truth for the form data.



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