

1. How can you render JSX in a React component?

- A. By using the `React.render()` function
- B. By passing the JSX as a string to the `ReactDOM.render()` function
- C. By using the `renderJSX()` function
- **D. By enclosing the JSX in curly braces {} within the component's `render()` method**

2. What are Higher-Order Components in React?

- A. Components with multiple props
- B. Components with multiple states
- **C. Advanced components**
- D. Components written in JavaScript

3. In Redux, how do you update the state immutably?

- **A. By creating a new copy of the state object**
- B. By using the `splice()` method
- C. By using the `setState()` method
- D. By directly modifying the state object

4. What is the purpose of arrow functions in ES6?

- A. To declare asynchronous functions
- **B. To define functions with a shorter syntax**
- C. To bind the value of `this` inside a function
- D. To create self-executing functions

5. Which code snippet demonstrates how to declare a basic route in React Router?

- **A. `<Route path="/about" component={About} />`**
- B. `<Link to="/about">About</Link>`
- C. `import '{ Link, Route }' from "react-router-dom"`
- D. `import '{ BrowserRouter as Router, Route }' from "react-router-dom"`

6. How can you optimize performance when using Hooks in React?

- A. By using the `useLayoutEffect` Hook instead of `useEffect`
- **B. By using the `useMemo` and `useCallback` Hooks**
- C. By using the `useDebugValue` Hook for debugging purposes
- D. By avoiding unnecessary re-renders with the `memo` Hook

7. How do you install Tailwind CSS in a project?

- A. Use the npx tailwindcss init command
- B. Install Tailwind CSS globally with npm
- **C. Use the npm install tailwind-css command**
- D. Include the Tailwind CSS CDN in the HTML file

8. How can you create a new React application using Create React App?

- A. By cloning a Git repository
- B. By downloading a ZIP file from the official website
- **C. By running "npm create-react-app my-app"**
- D. By using an online code editor

9. What is the purpose of package.json in a Node.js project?

- A. It contains the source code of the project
- **B. It defines the project's dependencies and scripts**
- C. It configures the Node.js environment
- D. It manages the project's build process

10. What is a Component in React?

- A. It is an HTML framework
- B. It is a single UI element
- **C. It is a JavaScript function**
- D. It is a Python class

11. What is the purpose of the exact prop in a Route component?

- A. It defines a redirect to another route
- B. It enables code splitting for the route component
- **C. It ensures that the route matches the URL exactly, without partial matching**
- D. It specifies the component to render for a specific route

12. What is the purpose of the next/link module in Next.js?

- A. It is responsible for server-side rendering
- **B. It provides client-side routing capabilities**
- C. It is used for handling form submissions
- D. It enables serverless function deployment

13. How do you import React Router components in the code?

- A. import (BrowserRouter, Routes, Route) from 'react-router-dom'
- **B. import (BrowserRouter as Router, Routes, Route) from 'react-router-dom'**
- C. import (Router, Routes, Route) from 'react-router-dom'
- D. import (Router, Switch, Route) from 'react-router-dom'

14. Which prop is used to define default values for props in a functional component in React 18?

- A. defaultValue
- B. props
- C. initialProps
- **D. defaultProps**

15. What is the advantage of event pooling in React?

- **A. It reduces memory usage by reusing event objects**
- B. It improves event handling performance by creating new event objects for each event
- C. It simplifies event handling by providing a pool of event handlers
- D. It allows for better management of event contexts

16. What happens if a component tries to consume a context that has not been provided higher up in the component tree?

- **A. The component throws an error**
- B. The component receives an empty object as the context value
- C. The component receives null as the context value
- D. The component receives a default value specified in the context definition

17. How would you use the useContext Hook to access a shared theme in a React component?

- **A. const theme = useContext(ThemeContext);**
- B. const '{theme}' = useContext(ThemeContext);
- C. const theme = useContext(ThemeContext.Provider);
- D. const '{theme}' = useContext(ThemeContext.Provider);

18. How do you make an HTTP GET request using window.fetch?

- **A. fetch(url, { method: 'POST' })**

- B. `fetch.get(url)`
- C. `fetch(url, { method: 'GET' })`
- D. `fetch.get(url, {})`

19. Which class is used to create a form input with a validation state in Bootstrap 5?

- **A. .form-control**
- B. `form-validation`
- C. `.form-check`
- D. `input-group`

20. How does `async/await` work in JavaScript?

- A. It automatically converts asynchronous code into synchronous code
- B. It allows synchronous execution of asynchronous code
- C. It runs asynchronous code in parallel with synchronous code
- **D. It pauses the execution until a promise is resolved or rejected**

21. What is the purpose of the `useState` Hook in React?

- a. To handle side effects in functional components
- b. To manage context in functional components
- **c. To manage state in functional components**
- d. To handle routing in React applications

22. Which HTTP method is typically used to update a resource in a RESTful API?

- a. GET
- b. POST
- c. DELETE
- **d. PUT**

23. How can you define a default prop value in a React component?

- a. Using `PropTypes.defaultProps`
- **b. Using the `defaultProps` static property**
- c. Using the `default` keyword in the prop definition
- d. Using the `props.default` property

24. What is the purpose of the `useEffect` Hook in React?

- **a. To perform side effects in functional components**

- b. To manage state in functional components
- c. To handle routing in React applications
- d. To create custom Hooks

25. Which of the following is true about the `map()` method in JavaScript ES6?

- a. It modifies the original array
- b. It is used to filter elements from an array
- **c. It creates a new array with the results of calling a function for every array element**
- d. It iterates over an array without returning anything

26. How do you access route parameters in a React Router component?

- a. Using this.props.params
- b. Using props.route.params
- c. Using useRouteParams() Hook
- **d. Using the useParams() Hook**

27. What is the purpose of the `data-bs-toggle` attribute in Bootstrap 5?

- a. To style elements dynamically
- **b. To enable interactive behavior like modals or tooltips**
- c. To apply responsive classes
- d. To handle form submissions

28. Which of the following is a key benefit of using the Virtual DOM in React?

- **a. It improves rendering performance by minimizing direct DOM manipulation**
- b. It allows direct manipulation of the DOM for better control
- c. It integrates with SQL databases
- d. It enables two-way data binding

29. How can you prevent a component from rendering in React?

- a. By using the render method with a null return
- b. By setting display: none in CSS
- **c. By returning null from the component's render function**
- d. By using the componentWillUnmount lifecycle method

30. What is the purpose of the `key` prop in React when rendering a list?

- a. To style list items uniquely
- **b. To help React identify which items have changed, added, or removed**
- c. To bind event handlers to list items
- d. To specify the order of list items

31. Which method is used to handle errors in a Promise chain?

- **a. .catch()**
- b. .then()
- c. .finally()
- d. .error()

32. What is the role of the `useContext` Hook in React?

- a. To manage state in functional components
- b. To handle side effects in functional components
- c. To create custom Hooks
- **d. To access context values in functional components**

33. In Bootstrap 5, which class is used to create a responsive grid column?

- a. .row
- b. .container
- **c. .col**
- d. .grid

34. What is the purpose of the `useReducer` Hook in React?

- a. To handle side effects in functional components
- **b. To manage complex state logic in functional components**
- c. To manage context in functional components
- d. To perform routing in React applications

35. Which of the following is true about arrow functions in ES6?

- **a. They do not have their own `this` binding**
- b. They cannot be used as constructors
- c. They cannot be used in arrays
- d. They always return a value implicitly

36. How do you create a controlled component in React?

- a. By using the useEffect Hook

- b. By using the useContext Hook
- **c. By binding input values to state and handling changes with onChange**
- d. By using the useReducer Hook

37. Which of the following best describes a reducer in Redux?

- a. A function that triggers actions in response to user interactions
- b. A component that manages the application's state
- **c. A function that specifies how the application's state changes in response to actions**
- d. A middleware that handles asynchronous operations in Redux

38. How do you handle multiple Promises simultaneously in JavaScript?

- a. By using the then method with multiple callbacks
- **b. By using the Promise.all method**
- c. By using the Promise.race method
- d. By using the catch method with multiple error handlers

39. Which of the following statements about Redux selectors is true?

- a. Selectors are used to modify the Redux store directly
- **b. Selectors are pure functions that derive specific data from the Redux store**
- c. Selectors are responsible for dispatching actions
- d. Selectors are only used in React class components

40. How can you configure Tailwind CSS in a Next.js project?

- a. By using a CDN link in the HTML file
- b. By importing a CSS file directly in the component
- c. By installing a Tailwind CSS plugin for Next.js
- **d. By installing the Tailwind CSS package and creating a configuration file**

41. What is the purpose of json-server in the context of setting up a server?

- a. To handle user input and interactions
- b. To display the website content
- **c. To provide a static web server for serving JSON data**
- d. To generate dynamic server responses

42. What does ES6 stand for?

- a. Efficient Syntax Language 6
- **b. ECMAScript 6**
- c. Enhanced Scripting Language 6
- d. Extensible Stylesheet Language 6

43. In Redux, when should you use combineReducers?

- a. When you want to use Redux DevTools to track the state
- b. When you want to connect the Redux store to a React component
- **c. When you want to split a reducer into smaller reducers**
- d. When you want to manage actions in the Redux application

44. What is the correct way to declare PropTypes for a component in React?

- a. Component.props = {...}
- b. Component.typeCheck = {...}
- **c. Component.propTypes = {...}**
- d. Component.checkProps = {...}

45. Which of the following is a common use case for using Redux in a React application?

- **a. Managing authentication and user sessions**
- b. Styling and layout of React components
- c. Handling form validation and input tracking
- d. Implementing server-side rendering in React

46. How do you make an HTTP GET request using window.fetch?

- a. fetch.get(url)
- b. fetch(url, { method: 'POST' })
- c. fetch.get(url, 0)
- **d. fetch(url, { method: 'GET' })**

47. How can you declare PropTypes for a prop that is an array of integers?

- **a. prop: PropTypes.arrayOf(PropTypes.number)**
- b. prop: PropTypes.arrayOf(PropTypes.integer)
- c. prop: PropTypes.array(PropTypes.number)
- d. prop: PropTypes.array(PropTypes.integer)

48. How do you chain multiple asynchronous operations using Promises?

- a. By using the Promise.race method
- **b. By nesting multiple then methods**
- c. By using the Promise.all method
- d. By using the async/await syntax

49. Which class is used to create a collapsible accordion component in Bootstrap 5?

- **a. accordion**
- b. collapse accordion
- c. .collapse
- d. .collapsible

50. What is the purpose of async/await in JavaScript?

- a. To handle errors in synchronous code
- b. To perform mathematical calculations
- c. To manipulate the DOM
- **d. To define asynchronous functions**

51. How can you handle errors in an async/await function when making a network request with Axios in JavaScript?

- a. Use the .catch() method on the Axios request promise to handle any errors that occur
- b. Assign the Axios request to a variable and use a .then() and .catch() chain to handle success and error cases
- c. Use the try keyword before the Axios request and the catch keyword after the request to handle errors
- **d. Wrap the entire function body in a try/catch block and handle the error inside the catch block**

52. What are the differences between useState and useReducer Hooks in React?

- a. useState is for local component state, while useReducer is for global application state
- b. useState is a built-in Hook, while useReducer is a custom Hook
- **c. useState is used for managing simple state, while useReducer is used for complex state and state transitions**

- d. useState is used for class components, while useReducer is used for functional components

53. How do you define a lazy component in React?

- a. const MyComponent = import("./MyComponent").lazy()
- b. const MyComponent = React.importLazy("./MyComponent")
- c. const MyComponent = lazy(() => import("./MyComponent"))
- **d. const MyComponent = React.lazy(() => import("./MyComponent"))**

54. How do you wrap a lazy component with Suspense in React?

- a. <Suspense wait={<Loading />}> <MyComponent /> </Suspense>
- b. <Suspense fallback={<Loading />} loading={<MyComponent />}>
- **c. <Suspense fallback={<Loading />}> <MyComponent /> </Suspense>**
- d. <Suspense loading={<Loading />}> <MyComponent /> </Suspense>

55. Which feature of ES6 is used to iterate over the elements of an array?

- **a. for...of loop**
- b. Spread syntax
- c. Destructuring assignment
- d. Arrow functions

56. In Redux, how do you update the state immutably?

- **a. By creating a new copy of the state object**
- b. By directly modifying the state object
- c. By using the setState() method
- d. By using the splice() method

57. What is the purpose of PropTypes?

- a. To handle asynchronous operations in React
- b. To improve performance in React applications
- c. To enable code reusability in React components
- **d. To ensure type safety in React components**

59. What is the purpose of the next/link module in Next.js?

- a. It is used for handling form submissions
- **b. It provides client-side routing capabilities**
- c. It is responsible for server-side rendering
- d. It enables serverless function deployment

60. Which of the following is a utility-first CSS framework that is often used with Next.js?

- a. Material-UI
- **b. Tailwind CSS**
- c. Bootstrap
- d. Bulma