

## Today's assignment's on React

### Multiple Choice (MCQ):

#### 1. React is primarily used for:

- a) Server-side rendering
- b) Styling web pages
- c) Building user interfaces
- d) Managing database

**Ans: c) Building User Interfaces**

#### 2. JSX allows you to:

- a) Write JavaScript inside CSS files
- b) Write HTML-like code inside JavaScript
- c) Run SQL queries in React
- d) Replace Node.js

**Ans: b) Write HTML-like code inside JavaScript**

#### 3. Which of the following is true about props?

- a) Props can be modified inside the child component
- b) Props allow data flow from child → parent
- c) Props are immutable and flow parent → child
- d) Props are used to manage component state

**Ans: c) Props are immutable and flow parent → child**

#### 4. In React, event handlers are written in:

- a) snake\_case
- b) PascalCase
- c) camelCase
- d) kebab-case

**Ans: c) camelCase**

#### 5. What does React use for efficient DOM updates?

- a) Shadow DOM
- b) Virtual DOM
- c) Real DOM only
- d) Web Assembly

**Ans: b) Virtual DOM**

### Short Questions:

#### 6. Write a simple React functional component called HelloWorld that displays “Hello, React!”.

Ans:

```
import React from "react";
```

```
function HelloWorld() {  
  return <h1>Hello, React!</h1>;  
}  
export default HelloWorld;
```

#### 7. What is the difference between a functional component and a class component?

Ans: Functional components and class components are two ways to create components in React, with key differences in their structure, state management, and handling of lifecycle events.

**Function Component:**

**Structure:** These are plain JavaScript functions that accept props as an argument and return React elements (JSX).

example:

```
function FuctionComponent(props){  
  
    return <html tag> <html tag>;  
}
```

**State and Life Cycle :** it uses a hooks like usestate and useeffect for state management and life cycle methods.

**Class Components:**

**Structure:** These are ES6 classes that extend React.Component and must include a render() method that returns React elements (JSX).

example:

```
class Welcome extends React.Component {  
  render() {  
    return <h1>Hello, {this.props.name}</h1>;  
  }  
}
```

**State and Lifecycle:** Class components inherently support local state management using this.state and this.setState(), and provide various lifecycle methods (e.g., componentDidMount, componentDidUpdate, componentWillUnmount) for handling side effects and component updates.

**8. Why should React component names start with a capital letter?**

Ans: React Component name start with a capital letter to tell the difference between html tag and component.

**9. Explain the difference between JSX and plain JavaScript in React.**

Ans: JSX stand for javascript xml. It is syntax extension of javascript which allows developer to write HTML

code directly in JavaScript code.

In JavaScript we need to use React.createElement() manually.

JSX just makes the code shorter and easier to read, but it's converted to JS in the background.

**10. Create a button in React that, when clicked, logs "Button clicked!" to the console.**

Ans:

```
import React from "react";  
  
function LogButton() {  
  const handleClick = () => {  
    console.log("Button clicked!");  
  };  
  return <button onClick={handleClick}>Click Me</button>;  
}  
export default LogButton;
```

## **Todays Strech Task Given**

### **1. Why do we use react?**

Ans: We use React because it makes our web apps faster and easier to build. Earlier, when websites were made with normal JavaScript, if one small part of the page changed, the whole page had to reload again. This was slow and hard to manage.

Facebook made React because their website had the same problem — when people liked or commented on posts, the full page was reloading again and again. To fix that, they created React which only updates the part that changes, not the whole page.

React also lets us break our UI into small parts called components, so we can reuse them and manage code better. That's why most modern websites use React today.

### **2. What is vite? And how it is better than the traditional create-react-app command for creating react applications?**

Ans: Vite is a new tool for making React or JavaScript projects. Before this, we use create-react-app but it was little slow. When we start project or change some code, it take more time to reload.

Vite is more faster. It don't bundle whole project at one time, it only load the files which is needed.

Because of that, it open very fast and build also become faster.

So simply, Vite is fast, light and easy to use than create-react-app.