**10. ReactJS-HOL**

**Objectives:**

Q1. Define JSX

JSX (JavaScript XML) is a syntax extension for JavaScript used with React. It allows developers to write HTML-like code inside JavaScript, which is then transpiled into React.createElement() calls. JSX makes it easier to visualize the UI structure and logic together.

Q2. Explain about ECMA Script

ECMAScript (ES) is the standard specification for scripting languages like JavaScript. It defines the core features such as variables, functions, control flow, and new updates like let, const, arrow functions, classes, etc., in ES6 and beyond.

Q3. Explain React.createElement()

React.createElement() is a method used internally by React to create React elements from JSX. It takes three arguments:

React.createElement(type, props, ...children)

It’s what JSX gets compiled into. For example:

<h1>Hello</h1>

compiles to:

React.createElement('h1', null, 'Hello')

Q4. Explain how to create React nodes with JSX

You can create React nodes using JSX like this:

const element = <h1>Hello, World!</h1>;

These JSX nodes are then rendered into the DOM using ReactDOM.render().

Q5. Define how to render JSX to DOM

To render JSX to the DOM, use:

ReactDOM.render(<App />, document.getElementById('root'));

This tells React to render the component (or JSX element) into the HTML element with the id "root".

Q6. Explain how to use JavaScript expressions in JSX

You can embed any JavaScript expression inside JSX using curly braces {}.  
const name = "Varsha";

const element = <h1>Hello, {name}!</h1>;

This will display: Hello, Varsha!

Q7. Explain how to use inline CSS in JSX

Inline styles in JSX are written as objects using camelCase property names:

const style = { color: 'red', fontSize: '20px' };

<h1 style={style}>Hello</h1>

**Hands-On exercise:**

**Code:  
App.js**  
import React from 'react';

import './App.css';

function App() {

  const element = "Office Space";

  const jsxAtt = <img src="https://img.freepik.com/free-photo/3d-rendering-beautiful-luxury-bedroom-suite-hotel-with-tv\_105762-2103.jpg" width="25%" height="25%" alt="Office Space" />;

  const ItemName = { Name: "DBS", Rent: 50000, Address: 'Chennai' };

  let colors = [];

if (ItemName.Rent <= 60000) {

    colors.push('textRed');

  } else {

    colors.push('textGreen');

  }

return (

    <div className="App">

      <h1>{element} , at Affordable Range</h1>

      {jsxAtt}

      <h1>Name: {ItemName.Name}</h1>

      <h3 className={colors.join(' ')}>Rent: Rs. {ItemName.Rent}</h3>

      <h3>Address: {ItemName.Address}</h3>

    </div>

  );

}

export default App;

**App.css**

.textRed {

  color: red;

  font-weight: bold;

}

.textGreen {

  color: green;

  font-weight: bold;

}

h1 {

  font-family: Arial, sans-serif;

}

.App {

  text-align: center;

}

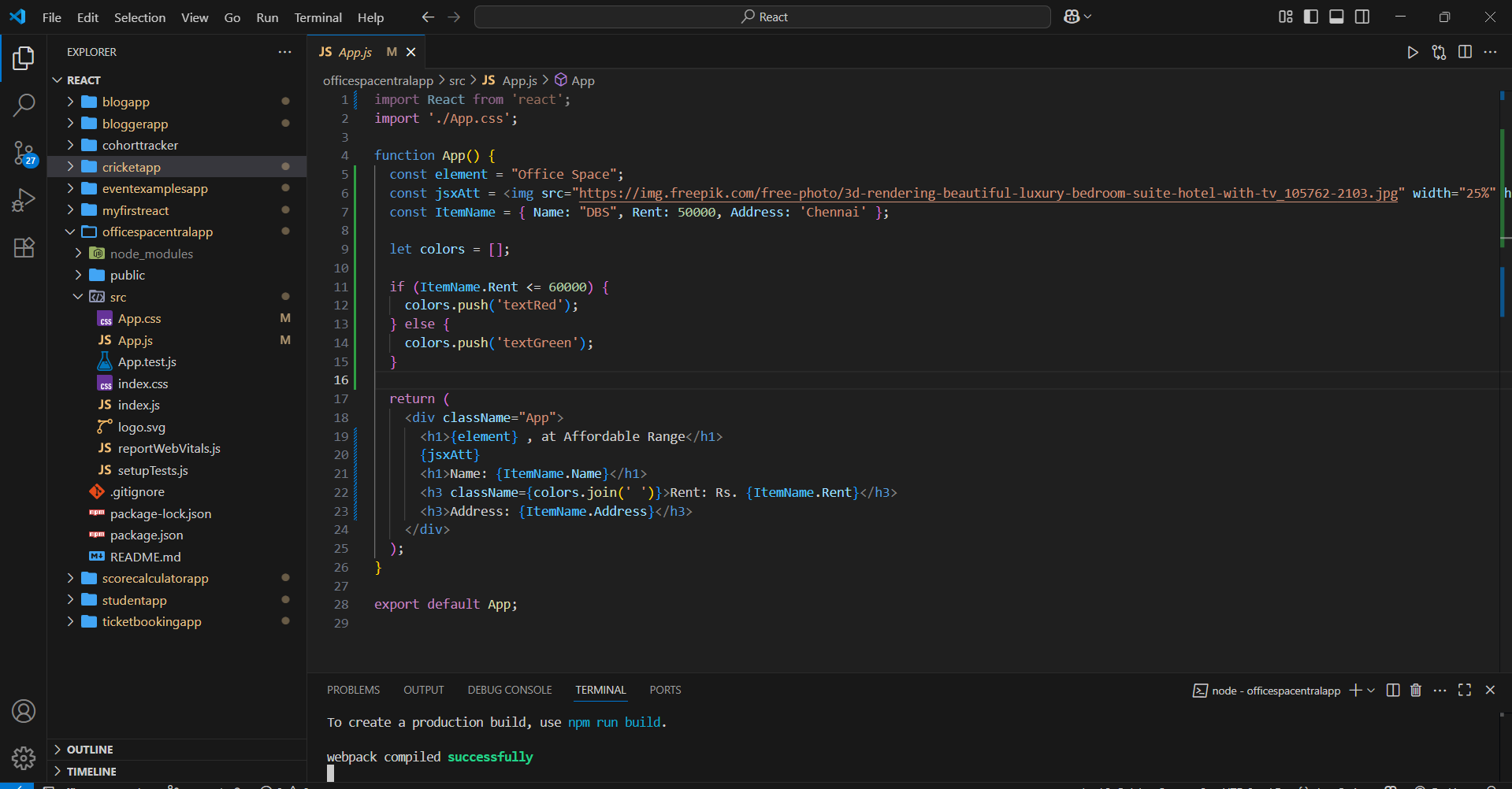
h1 {

  text-align: center;

  margin: 0;

}

**Output:  
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