

Q5. What are Higher-Order Components (HOC) in React and how do they work?

A) Higher-Order Components (HOC) is an advanced and powerful pattern in React that allows you to enhance or modify the behavior of components by wrapping them with higher-order functions. HOCs are not a part of the React API but are a pattern derived from React's composability and functional nature.

Here's how Higher-Order Components work:

Function That Takes a Component: A Higher-Order Component is a regular JavaScript function that accepts a React component as an argument.

New Component Generation: Inside the Higher-Order Component function, a new component is created. This can be done using class-based components or functional components with hooks.

Props Manipulation: The Higher-Order Component can manipulate the original component's props, state, or behavior as needed. It can add new props, modify existing ones, or even wrap the component with additional elements.

Return a New Component: The Higher-Order Component returns the newly created component with all the modifications and enhancements.

Usage: To use the enhanced component, we wrap the original component with the Higher-Order Component function, passing it as an argument. This creates a new component with the added functionality.