**ReactJs HandsOn-2**

**1.Explain React components**

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React components are the building blocks of a React application.  
They are independent, reusable pieces of UI that describe how a part of the interface should appear and behave.

**2. Identify the differences between components and JavaScript functions**

React components and JavaScript functions may look similar in syntax, but they serve very different purposes. **React components** are specifically designed to **build and render user interfaces** in React applications. They return **JSX**, which looks like HTML and describes what should appear on the screen. Components must start with an uppercase letter and are used like custom HTML tags (e.g., <MyComponent />). They can accept **props** as input and can use **React features** like hooks (useState, useEffect, etc.).

On the other hand, **JavaScript functions** are general-purpose blocks of code used to perform **logical operations, calculations**, or return values. They return primitive or complex data types like numbers, strings, arrays, or objects—but not JSX. JavaScript functions can have any naming convention and are called directly using their name (e.g., addNumbers(2, 3)). They are not tied to React and do not have access to React-specific features like hooks or props by default.

In summary, React components are designed for **UI rendering** and work within the React framework, while JavaScript functions are meant for **logic and computation** in any JavaScript environment.

**3. Identify the types of components**

1. Functional Components

* These are JavaScript functions that return JSX (UI code).
* They are simple and easy to write.
* Support React Hooks like useState, useEffect, etc.
* Used in modern React development.

2. Class Components

* These are **ES6 classes** that extend React.Component.
* Must define a render() method that returns JSX.
* Can manage state and lifecycle methods.

**4. Explain class component**

A class component is one of the two main types of components in React (the other being functional components). It is defined using an ES6 class that extends React. Component, and it must include a render() method that returns JSX, which defines what appears on the screen.

**5. Explain function component**

A function component is a simple JavaScript function that returns JSX (JavaScript XML), which defines what the user interface should look like. It is the most common and recommended way to create components in modern React.

**6. Define Component Constructor**

In a React class component, the constructor is a special method used to initialize the component's state and bind methods.

It is called automatically when the component is created and is the first method executed in the component lifecycle.

**7. Define render() Function**

The render**() function** is a required method in every class component.  
It returns the JSX that defines what should be displayed on the screen.