1. How does JSX differ from HTML?

Syntax: JSX is a syntax extension for JavaScript, while HTML is a markup language.

Embedding JavaScript: JSX allows embedding JavaScript expressions directly within markup, while HTML doesn't have this capability.

Attributes and Properties: In JSX, attributes and properties are written using camelCase convention, like className instead of class in HTML.

Component Rendering: JSX is often used to render React components, whereas HTML is static and typically used for building static web pages.

2. Why is JSX used in React?

User-Friendly Syntax: - JSX is a JavaScript extension that provides a syntax similar to HTML. It allows to define React elements using a familiar markup-like structure, making it more accessible to developers, especially those with web development experience.

Readability: - JSX code tends to be more readable and maintainable, as it resembles the structure of the rendered UI. It makes it easier to understand the component's hierarchy.

Babel Transpilation: - JSX code needs to be transpiled by tools like Babel to convert it into standard JavaScript that browsers can understand. This transpilation step is a common part of the modern web development workflow.

3. Can you embed JavaScript expressions in JSX? If so, how?

Yes, you can embed JavaScript expressions in JSX by wrapping them in curly braces {}.

For example:

```
const name = "Tesfaye";
const element = <h1>Hello, {name}</h1>;
```

4. How do you write comments in JSX?

Comments in JSX are written inside curly braces {/* */}.

For example:

```
const element = (
  <div>
    {/* This is a comment */}
    <h1>Hello, World!</h1>
  </div>
);
```

5. Explain the significance of curly braces {} in JSX.

Curly braces {} are used to embed JavaScript expressions within JSX.

This allows dynamic content and logic to be included within the markup.

6. Can JSX be directly rendered to the DOM?

No, JSX needs to be transpiled into regular JavaScript before it can be rendered in the browser.

Typically, tools like Babel are used to transform JSX into JavaScript code that can be executed by the browser.

7.What is the purpose of Babel in relation to JSX?

Babel is often used to transform JSX syntax into regular JavaScript that can be executed by the browser.