JSX Cheat Sheet: Combining JavaScript with HTML-like Syntax in React
==

? What is JSX?

JSX (JavaScript XML) is a syntax extension for JavaScript that allows you to write HTML-like code within JavaScript. It is used in React to describe the UI structure in a declarative way.

Example:
```
const element = <h1>Hello, world!</h1>;
```

This compiles to:
```
React.createElement('h1', null, 'Hello, world!');
```

? How JSX Combines JavaScript and HTML-like Syntax

- Embed JavaScript expressions using curly braces `{}`.
- Use conditional rendering, loops, and functions directly in markup.
- Pass props and handle events in a readable way.

Example:
```
function Greeting({ name }) {
    return <h1>Hello, {name}!</h1>;
}

function Status({ isOnline }) {
    return <p>{isOnline ? 'Online' : 'Offline'}</p>;
}
```

? Why JSX is Powerful for Building Dynamic UIs

Feature	Benefit
Declarative Syntax	Easy to understand and maintain UI structure
JavaScript Integration	Enables dynamic rendering and interactivity
Component-Based	Encourages reusable, modular UI components
Tooling Support	Works well with Babel, ESLint, Prettier, and IDEs
Compile-Time Optimization	JSX is compiled to efficient JavaScript code

? Summary

JSX bridges the gap between markup and logic, allowing developers to:
- Write HTML-like code in JavaScript.
- Dynamically render content based on state or props.
- Build complex UIs with readable, maintainable code.