Chapter 03 Laying the Foundation

recap by @jx

1 🌥 What is a Polyfill?

Often times during development one will write code that for *any* of **many** reasons can't run on the device you are sending it to. So additional code that does that thing is generated and sent instead. This additional code is what a **polyfill** is.

> 💡 A polyfill is a fallback mechanism in which code using an old(supported) style is used to make a new(unsupported) code compatible.

1.1 ⚙ Babel - JavaScript Compiler

1. Babel can polyfill features that are missing in your target environment.

2. Not only that, Babel can covert JSX into JavaScript.

2 🔷 What is JSX?

1. JSX is a syntactic sugar for React.createElemet().

2. Example JSX: **const element = <h1>Hello, world!</h1>;**

3. JSX produces React elements, which are, just plain object the same way createElement does.

4. After compilation, JSX **expressions** become regular JavaScript function calls and evaluate to JavaScript objects.

5. It is **NOT** HTML inside JavaScript.

Note 1. React DOM uses camelCase property naming convention instead of HTML attribute names. For example, **class** becomes **className** in JSX, and **tabindex** becomes **tabIndex**.

Note 2. An expression is a valid unit of code that resolves to a value. *Read "5." above again now*

3   *"Everything is a Component in React"*

3.1   ♻ What is a Component?

1. A component is an independent, reusable piece of UI.

2. Components are like JavaScript functions. They accept inputs (called props) and return React elements describing what should appear on the screen.

3.2   Types of Component

1. Functional

2. Class *(This will be covered later.)*

3.3   ♠ Functional component

Like the name suggests, they are literally JavaScript functions.

Example Functional component:

```
function Welcome(props){
    return <h1> Hello, {props.name} </h1>;
}
```

Note 3. ‼ Always start component names with a capital letter.

3.4   🎆 What is component composition?

In React, we can make components more generic by accepting props, which are to React components what parameters are to functions.

Component composition is the name for passing components as props to other components, thus creating new components with other components.

4 🔗 References

1. JSX - React Official Docs

2. Components - React Official Docs

3. Component Composition - Blog by Felix Gerschau

4. Link to Chapter 01 Recap

5. Link to Chapter 02 Recap