Theory—3

1. What is JSX?

JSX is a syntex extensin created by Facebook. It makes us easy to understand the code and makes the code easy to maintain.

2. Superpowers of JSX?

Easy to maintain
Secure
Easy to debug

3. Role of type attribute in script tag? What options can I use there?

The type attribute in the script tag defines the type of script that we we want to run inside our app. type attribute can be of the following types:
text/javascript : It is the basic standard of writing javascript code inside the <script> tag.
e.g

```
<script type="text/javascript">
    const a = "Hello";
    const b = "World!";
    console.log(a + " " + b); // Hello World!
</script>
```

text/ecmascript : this value indicates that the script is following the EcmaScript standards.
module: This value tells the browser that the script is a module that can import or export other files or modules inside it.
text/babel : This value indicates that the script is a babel type and required bable to transpile it.
text/typescript: As the name suggest the script is written in TypeScript.

4. {TitleComponent} vs {<TitleComponent/>} vs {<TitleComponent></TitleComponent>} in JSX.

TitleComponent}: This value describes the TitleComponent as a javascript expession or a value. The {} can embed a javascript expression or a values inside it.
<TitleComponent/> : This value represents a Component that is basically returning Some JSX value. in simple terms TitleComponent a function that is returning a JSX value. A compoenet is written inside the {< />} expression.
<TitleComponent></TitleComponent> : <TitleComponent /> and <TitleComponent></TitleComponent> are equivalent only when < TitleComponent /> has no children components.The opening and closing tags are created to include the child components.
e.g.

```
<TitleComponent>
    <ChildComponen1 />
    <ChildComponen2 />
    <ChildComponen3 />
</TitleComponent>
```

1. Writing Scripts in package.json.

Q. What converts New Code to Older Code(For older version Browsers)?

A: Babel , We do not need to write polyfill. Babel does it automatically.

npx - executing commands without downloading packages npm - will download required packages

Note: Parcel will not remove console.log automatically. We need to configure for it. There is a package for it, named babel-plugin-transform-remove-console either from babel website or npmjs website:

command :

npm install babel-plugin-transform-remove-console --save-dev /-D

Usage:

1.via .babelrc (recommended) :

2. via CLI

3. via NodeAPI

2. React-key Reconciliation :

When there are siblings in an array, we need to give keys for each sibling

HW: Read about React-key Reconciliation from React Docs.

3. Babel

React.createElement gives us an Object, which is then converted to html and puts into DOM

Flow:

React.createElement => Object => HTMl(DOM)

HW : Difference between HTML and JSX

JSX uses React.createElement (behind the scenes), which gives Object, and then into HTML, and it is put into DOM Babel does it. Babel converts JSX. JSX was developed by Facebook.

Flow:

JSX => React.createElement => Object => HTMl(DOM)

Babel converts JSX into React.createElement

NOTE: Babel is must to use JSX .

Q. Is JSX HTML inside JS?

A: No, JSX is a HTML like Syntax, and not HTML inside JS.

Bable Compiler for JS. Read Babel Docs at babeljs.io

HW : Play with Babel in it's website. Also Go to it's GitHub Repo, and read about its algorithms.

Babel comes along with Parcel.

4. React Component types:

Functional Component- NEW
Class Based Component - OLD
Functional Component is just a normal function that returns some piece of JSX, or a react element, or a function.
Name of a Component starts with a Capital Letter (not mandatory, but good practice to use)
If we have to write multiple lines to be returned in a component, we need to use () and ; at the end.

For Homework, use Normal Convention.

5. Diff b/n React Element & React Component:

React Element is returns an Object. React Component is a function that returns JSX, or a react element, or a function.

Syntax When rendering:

For React Element:

We use root.render(element_name);

For React Component:

We use Angular brackets: root.render(\<ComponentName />);

Any piece of Javascript code can be written within {}

XSS - Cross site scripting (XSS) is an attack in which an attacker injects malicious executable scripts into the code of a trusted application or website. Attackers often initiate an XSS attack by sending a malicious link to a user and enticing the user to click it.

JSX takes care of XSS.

Q: Component Composition:

A: Writing/ Passing component inside component.

Home Work:

Read about React-key Reconciliation from React Docs.
Do Whatever Akshay did in the Session.