CS50 Beyond

React

React

- Declarative
- JSX
- Components
- State

JSX

JSX

```
const foo = <h1>Hello!</h1>
```

React

ReactDOM

Babel

```
<script src="https://unpkg.com/react@16/umd/
react.development.js" crossorigin></script>

<script src="https://unpkg.com/react-dom@16/umd/react-
dom.development.js" crossorigin></script>

<script src="https://unpkg.com/babel-standalone@6/
babel.min.js"></script>
```

Components

```
class Hello extends React.Component {




}
```

```
class Hello extends React.Component {

    render() {
        return <h1>Hello!</h1>;
    }

}
```

```
<Hello />
```

```
<Hello name="Alice" />
```

```
class Hello extends React.Component {

    render() {
        return <h1>Hello!</h1>;
    }

}
```

```
class Hello extends React.Component {

    render() {
        return <h1>Hello {this.props.name}!</h1>;
    }

}
```

State

```
class Counter extends React.Component {







}
```

```
class Counter extends React.Component {

    constructor(props) {



    }

}
```

```
class Counter extends React.Component {

    constructor(props) {
        super(props);




    }

}
```

```
class Counter extends React.Component {

    constructor(props) {
        super(props);
        this.state = {

        };
    }

}
```

```
class Counter extends React.Component {

    constructor(props) {
        super(props);
        this.state = {
            count: 0
        };
    }

}
```

Changing State

```
this.setState({
    count: 28
});
```

```
this.setState(state => ({
    count: state.count + 1
}));
```

```
this.setState(state => {
    const newCount = 28;
    return {
        count: newCount
    };
});
```

Guidelines for State

- Never modify state directly, always use `setState`.
- If state depends on previous state, then `setState` should take a function as its argument.

Some Useful JS Tools

```
const list1 = [1, 2, 3, 4, 5];
const copy = [...list1];
const list1 = [1, 2, 3, 4, 5];
const list2 = [...list1, 6];
const list1 = [1, 2, 3, 4, 5];
list1.splice(3, 1);

// list1 is now [1, 2, 3, 5]
```

Morning Project

- To-Do List
- Allow user to:
  - Type in a task.
  - Add a new task to a list of tasks.
  - Delete a task by clicking a button next to each task.

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