

# What is JSX

---

React functions off of JSX. It might seem weird at first, but it is just HTML and JavaScript combined together in the same file. It uses `{}` for property binding (which we'll get into in a second) and has strict rules for how to use HTML. Some of the key things to remember are:

- When using classes on an element, instead of `<div class='classes go here'>` you use `<div className='classes go here'>`
- When using the style attribute, you would use `<div style={{height: '10%'}}>`
- ALL elements must be closed - even normally self closing elements like this: `` would cause an error. This would not: ``

## Example

---

Take this HTML

```
<h1>Luce's Todos</h1>

<ul>
  <li>Reinvent traffic lights</li>
  <li>Create a perpetual motion machine</li>
  <li>Solve the Theory of Everything</li>
</ul>
```

And you want to put it into this React component:

```
export default function TodoList() {
  return (
    // ???
  )
}
```

You could just copy and paste the HTML into the 'return' of the component, however it will not work. There are a few key things we need to change first to make it valid JSX.

1. Return a single root element
- This means that we will wrap the entire HTML in a single parent tag.
2. Close all of the tags

### 3. camelCase mostly everything

- Most HTML attributes are written in camelCase in React. Example: instead of stroke-width you use strokeWidth.
- Additionally, you can't use 'class' since it's a reserved keyword in React. Use className instead.

With all of those changes, it would look like this:

```
export default function TodoList() {  
  return (  
    <>  
      <h1>Luce's Todos</h1>  
        
      <ul>  
        <li>Reinvent traffic lights</li>  
        <li>Create a perpetual motion machine</li>  
        <li>Solve the Theory of Everything</li>  
      </ul>  
    </>  
  );  
}
```