

## Day 1 Session 5:

### Step 1: Shopping Cart Application with state

In React, state refers to a structure that keeps track of how data changes over time in your application. Managing state is a crucial skill in React because it allows you to make interactive components and dynamic web applications. State is used for everything from tracking form inputs to capturing dynamic data from an API

```
import './App.css';
import Product from './Product';

function App() {
  return (
    <>
    <Product></Product>
    </>
  );
}

export default App;
```

2) rce to create product component automatically

```
import React, { Component } from 'react'
import './product.css'

export class Product extends Component {
  render() {
    return (
      <div className="wrapper">
        <div>
          Shopping Cart: 0 total items.
        </div>
        <div>Total: 0</div>

        <div className="product"><span role="img" aria-label="soccer ball">⚽
</span></div>
        <button>Add</button> <button>Remove</button>
      </div>
    )
  }
}

export default Product
```

There are two values in your component values that are going to change in your display: total number of items and total cost. Instead of hard coding them, in this step you'll move them into an object called state.

The state of a React class is a special property that controls the rendering of a page. When you change the state, React knows that the component is out-of-date and will automatically re-render. When a component re-renders, it modifies the rendered output to include the most up-to-date information in state. In this example, the component will re-render whenever you add a product to the cart or remove it from the cart. You can add other properties to a React class, but they won't have the same ability to trigger re-rendering.

add a property called state to the Product class. Then add two values to the state object: cart and total. The cart will be an array, since it may eventually hold many items. The total will be a number. After assigning these, replace references to the values with this.state.property:

```
import React, { Component } from 'react'
import './product.css'

export class Product extends Component {
  state={
    cart:[],
    total:0
  }
  currencyOptions = {
    minimumFractionDigits: 2,
    maximumFractionDigits: 2,
  }

  getTotal = () => {
    return this.state.total.toLocaleString(undefined,
this.currencyOptions)
  }
  render() {
    return (
      <div className="wrapper">
        <div>
          Shopping Cart: {this.state.cart.length} items
        </div>
        <div>Total: {this.getTotal()}</div>

        <div className="product"><span role="img" aria-label="soccer ball">⚽
</span></div>
        <button>Add</button> <button>Remove</button>
      </div>
    )
  }
}

export default Product
```

individual add

```
add = () => {
  this.setState({
    cart: ['donut'],
    total: 5
  })
}
```

Multiple add

```
import React, { Component } from 'react'
import './product.css'
const products = [
  {
    pr: ' ',
    name: 'ice cream',
    price: 50
  },
  {
    pr: ' ',
    name: 'donuts',
    price: 190,
  },
  {
    pr: ' ',
    name: 'watermelon',
    price: 30
  }
];
export class Product extends Component {
  state={
    cart:[],
    total:0
  }
  currencyOptions = {
    minimumFractionDigits: 2,
    maximumFractionDigits: 2,
  }

  getTotal = () => {
    return this.state.total.toLocaleString(undefined,
this.currencyOptions)
  }
  add = (product) => {
    this.setState(state => ({
      cart: [...state.cart, product.name],
      total: state.total + product.price
    })
  )
}
```

```

    )))
  }
  remove = (product) => {
    this.setState(state => {
      const cart = [...state.cart];
      cart.splice(cart.indexOf(product.name))
      return ({
        cart,
        total: state.total - product.price
      })
    })
  }
}
render() {
  return (
    <div className="wrapper">
      <div>
        Shopping Cart: {this.state.cart.length} items
      </div>
      <div>Total: {this.getTotal()}</div>
      <div>
        {products.map(product => (
          <div key={product.name}>
            <div className="product">
              <span role="img" aria-label={product.name}>{product.pr}</span>
            </div>
            <button onClick={() => this.add(product)}>Add</button>
            <button onClick={() => this.remove(product)}>Remove</button>
          </div>
        ))}
      </div>
    </div>
  )
}
}
export default Product

```