React Dream:

Contramap

Map

Array

Array<🦆>

map(🦆 → 🐊)

Array<🐊>

Array

```
isOdd : Number → Boolean
[2, 3].map( isOdd )
```

“Box”

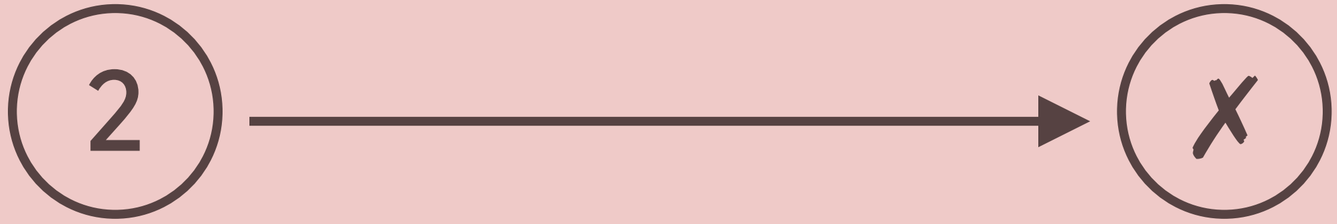
Box<🦉>

`map( 🦉 → 🦊 )`

Box<🦊>

“Box”

```
Box(2).map( isOdd )
```



Map in Function

Function

Function<🦉, 🦊>

length : **String** → **Number**

Function<String, Number>

Function

Function<🦉, 🦊>

map(🦊 → 🦁)

Function<🦉, 🦁>

Post Composition

Function

```
length : String → Number
isOdd : Number → Boolean

length.map( isOdd )
lengthIsOdd : String → Boolean
```

Function

Function<🦉, 🦊>

contramap(🐠 → 🦉)

Function<🐠, 🦊>

Pre Composition

Function

```
length : String → Number
inspect : Object → String
length.contramap( inspect )
inspectThenLength : Object → Number
```

HoC

Composition

Higher-order Component

hoc1 : **ReactComponent**<🌱> →
ReactComponent<🐛>

hoc2 : **ReactComponent**<🐛> →
ReactComponent<🦋>

ReactComponent<🌱>
compose(hoc2, hoc1)
ReactComponent<🦋>

Higher-order Component

`hoc : ReactComponent<🐛> → ReactComponent<🦋>`

ReactComponent<🐛>

`compose( hoc )`

ReactComponent<🦋>

Higher-order Component

`ReactComponent<🦉>`

`compose( 🦉 → 🦊 )`

`ReactComponent<🦊>`

“Box”

Box<🦉>

`map( 🦉 → 🦊 )`

Box<🦊>

Higher-order Component

ReactComponent ≡ **Box**

compose ≡ map

ReactComponent<🦉>

map(🦉 → 🦊)

ReactComponent<🦊>

React

Dream

React Dream

```
ReactComponent<Props, ReactElement>
```

```
ReactComponent<🦄, 🌈> ≃ Function<🦄, 🌈>
```

React Dream: Contramap

ReactComponent<🐴, 🌈>

contramap(🦄 → 🐴)

ReactComponent<🦄, 🌈>

React Dream: Contramap

```
ReactDream(props ⇒ <h1 {...props}>Hello</h1>)
  .contramap(({hovered, ...props}) ⇒ ({
    style: {
      backgroundColor: hovered
        ? ‘red’
        : ‘black’
    },
    ...props
  })
```

React Dream: Map

ReactComponent<🐰>

map(🐰 → 🐼)

ReactComponent<🐼>

React Dream: Map

```
ReactDream(({ hovered }) ⇒ (
  <h1>{hover ? ‘Hola’ : ‘Hello’}</h1>
))
  .map( withHoverProps({ hovered: true }) )
```

React Dream

map like in **Box**

contramap like in **Function**

React Dream

Separation of intent

Better debugging experience

Performance boost

Future proof

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Design System @ Klarna

@xaviervia

Thank you