

4. 리액트의 작동 원리 (실습2)

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학습 목표: 4. 리액트의 작동 원리

- React element 생성과 ReactDOM 렌더링

- 엘리먼트 생성: React.createElement()

- 단일 엘리먼트

- 엘리먼트 트리

- map() 함수 활용

- ReactDOM 렌더링

- ReactDOM.render() -- react@16, react@18

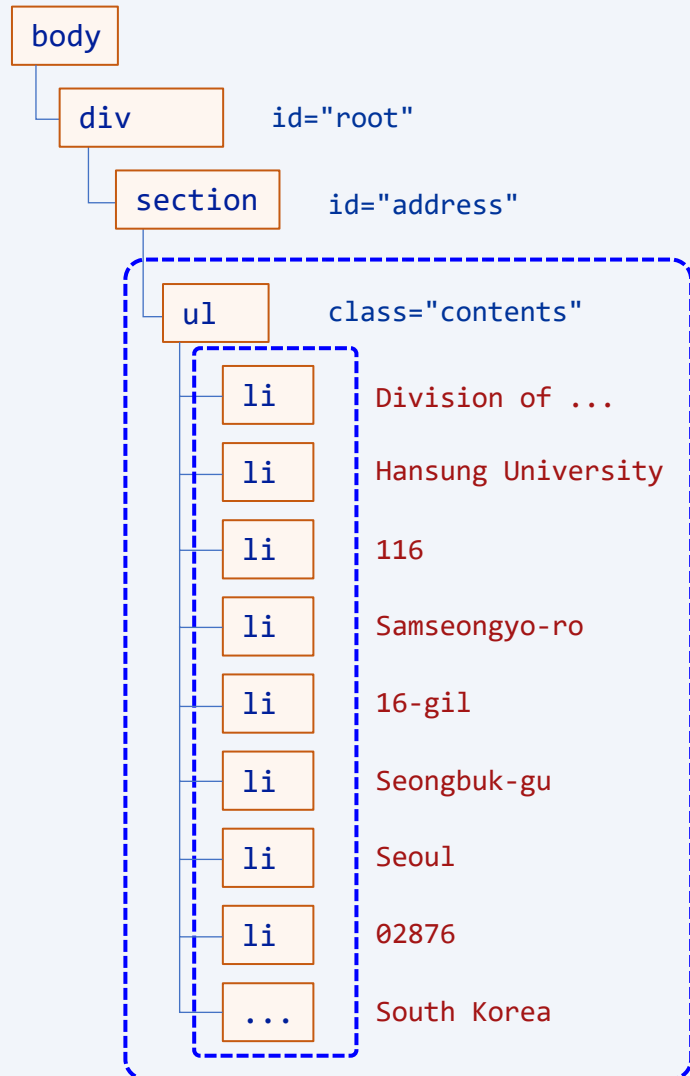
- 함수형 컴포넌트 -- react@16, react@18

- 전역 데이터 활용

- 매개변수 전달

- 클래스형 컴포넌트 -- react@16, react@18

실습19-1: 리액트 엘리먼트 - 엘리먼트 계층, 문자열



<div id="root"></div>

```
/* ch04/ex/ex19-1.html from ch04/02/03.html */
const addr = React.createElement(
```

);

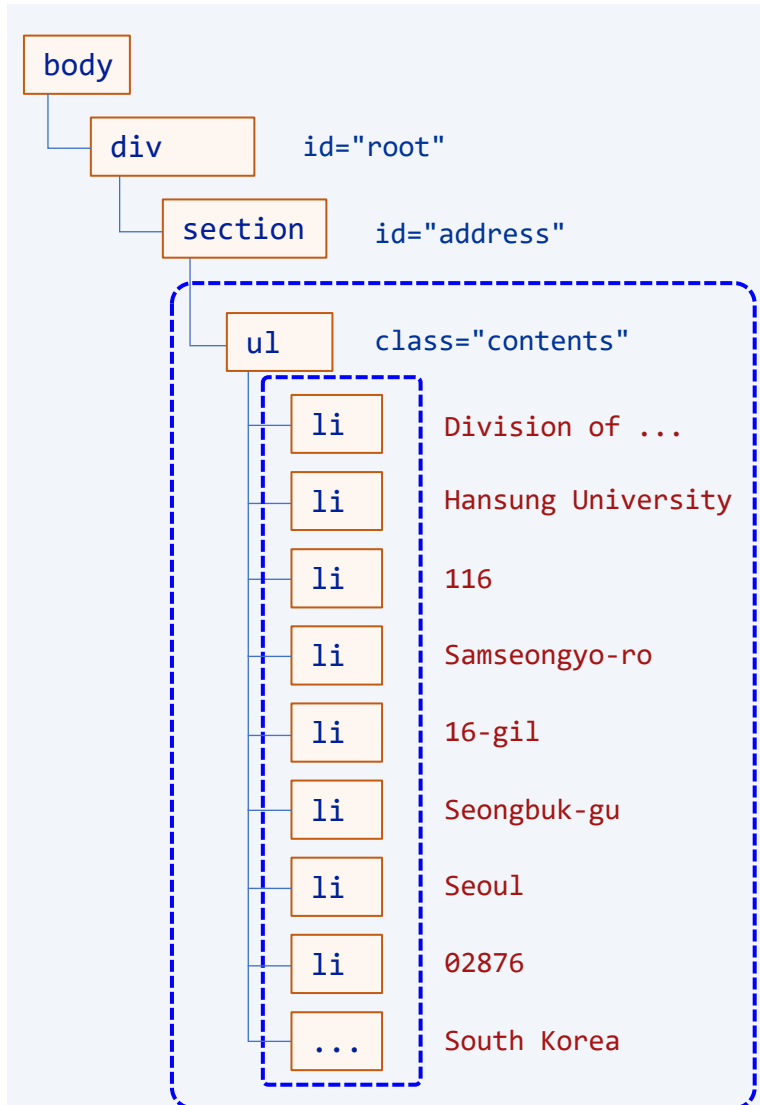
```
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(addr);
```

```
[
    "Division of Computer Engineering",
    "Hansung University",
    "116",
    "Samseongyo-ro",
    "16-gil",
    "Seongbuk-gu",
    "Seoul",
    "02876",
    "South Korea"
];
```

- Division of Computer Engineering
- Hansung University
- 116
- Samseongyo-ro
- 16-gil
- Seongsbuk-gu
- #text 82.45 × 19
- South Korea

```
▼<body>
  <!-- 타겟 컨테이너 -->
  ▼<div id="root">
    ▼<section id="address">
      ▼<ul class="contents">
        ▶<li>...</li> = $0
        ▶<li>...</li>
        ▶<li>...</li>
        ▶<li>...</li>
        ▶<li>...</li>
        ▶<li>...</li>
        ▶<li>...</li>
        ▶<li>...</li>
        ▼<li>
          ::marker
          "South Korea"
        </li>
      </ul>
    </section>
  </div>
```

실습19-2: 리액트 엘리먼트 - 배열 활용



```
/* ch04/ex/ex19-2.html from ch04/02/04-1.html
const address = [ ... ];
```

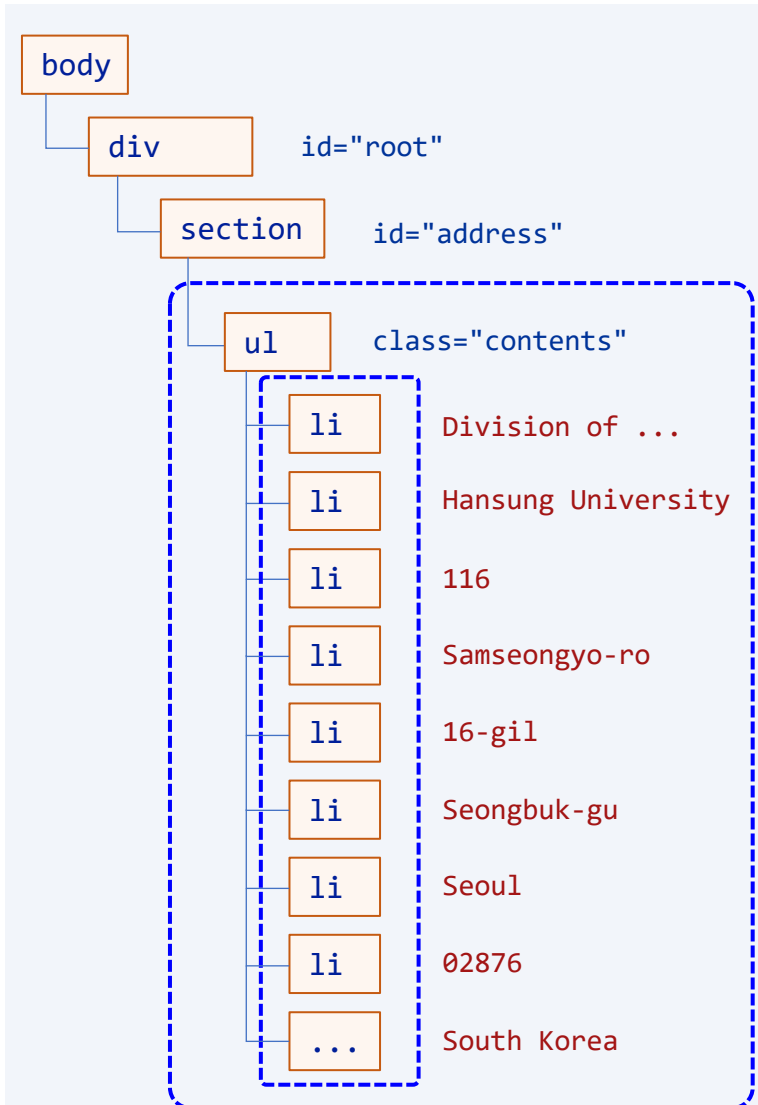
```
const addr = React.createElement(
```

```
);
```

```
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(addr);
```

```
const address = [
  "Division of Computer Engineering",
  "Hansung University",
  "116",
  "Samseongyo-ro",
  "16-gil",
  "Seongbuk-gu",
  "Seoul",
  "02876",
  "South Korea"
];
```

실습20-1~2: 리액트 엘리먼트 - map() 활용



```
/* ch04/ex/ex20-1.html from ch04/02/04.html */
const address = [ ... ];
```

```
const addr = React.createElement(
  "section",
  {id: "address"},
  React.createElement(
    "ul",
    {className: "contents"},
    ...
  )
);
```

```
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(addr);
```

```
/* ch04/ex/ex20-2.html from ch04/02/05.html */
...
const addr = React.createElement(
  ...
)
);
...
```

```
const address = [
  "Division of Computer Engineering",
  "Hansung University",
  "116",
  "Samseongyo-ro",
  "16-gil",
  "Seongbuk-gu",
  "Seoul",
  "02876",
  "South Korea"
];
```

실습21-1~2: 함수형 컴포넌트 (react@16, react@18)

```
/* ch04/ex/ex21-1.html from ch04/03/01-2.html */
```

```
const Address = function(){
```

```
}
```

```
ReactDOM.render(  
  React.createElement(Address, null, null),  
  document.getElementById("root")  
);
```

```
/* ch04/ex/ex21-2.html from ch04/03/01-2.html */
```

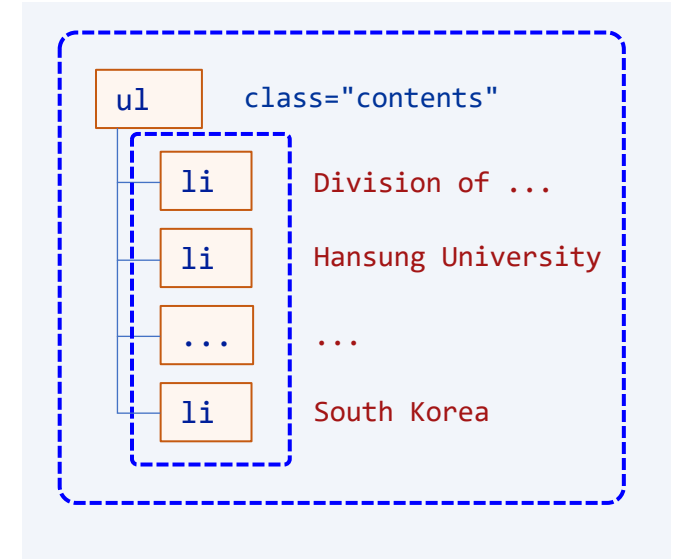
```
...
```

```
const Address = function(){
```

```
}
```

```
const root = ReactDOM.createRoot(document.getElementById('root'));
```

16



18

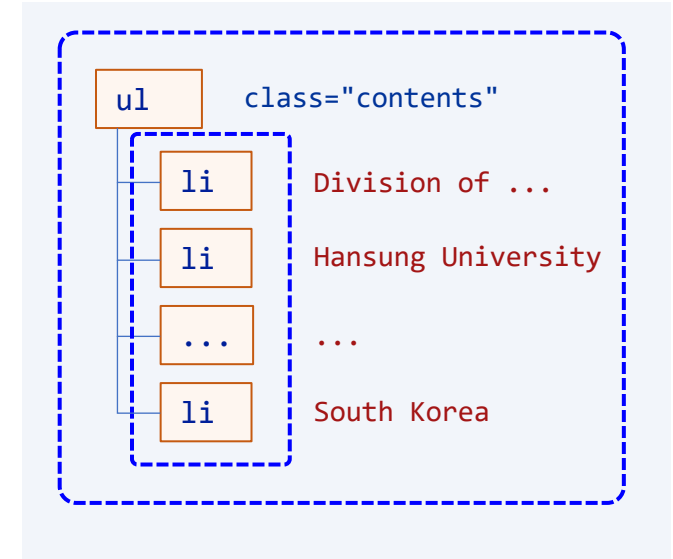
```
const address = [  
  "Division of Computer Engineering",  
  "Hansung University",  
  "116",  
  "Samseongyo-ro",  
  "16-gil",  
  "Seongbuk-gu",  
  "Seoul",  
  "02876",  
  "South Korea"  
];
```

실습22-1~2: 함수형 컴포넌트에서 매개변수 전달 (react@16, react@18)

```
/* ch04/ex/ex22-1.html from ch04/03/01-3.html */
const Address = 
return React.createElement(
  "ul",
  { className: "address" },
  props.data.map( (addr, i) => React.createElement("li", {key: i}, addr) )
);
}

ReactDOM.render(
  ,
  document.getElementById("root")
);
```

16



```
/* ch04/ex/ex22-2.html from ch04/03/01-3.html */
...
const Address = 
return React.createElement(...);
}

const root = ReactDOM.createRoot(document.getElementById('root'));
```

18

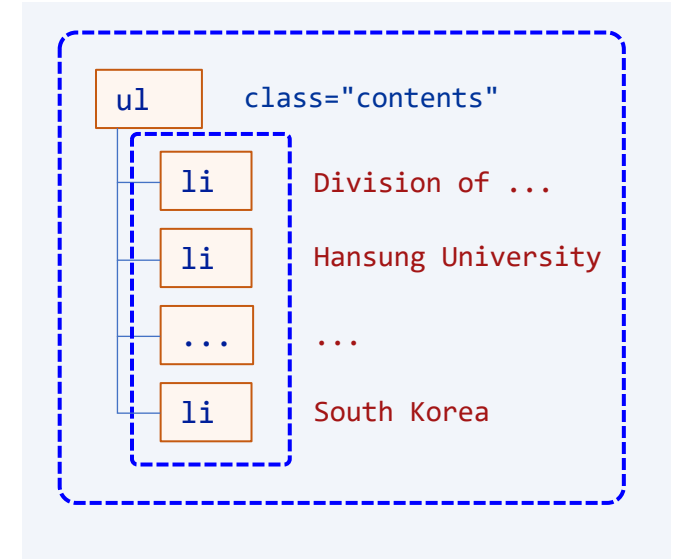
```
const address = [
  "Division of Computer Engineering",
  "Hansung University",
  "116",
  "Samseongyo-ro",
  "16-gil",
  "Seongbuk-gu",
  "Seoul",
  "02876",
  "South Korea"
];
```

실습23-1~2: 함수형 컴포넌트에서 매개변수 전달 (react@16, react@18)

/* ch04/ex/ex23-1.html from ch04/03/01-4.html */

```
const Address =   
  return React.createElement(  
    "ul",  
    { className: "address" },  
      
  );  
}  
  
ReactDOM.render(  
  ,  
  document.getElementById("root")  
);
```

16



/* ch04/ex/ex23-2.html from ch04/03/01-4.html */

```
...  
const Address =   
  return React.createElement(...);  
}  
  
const root = ReactDOM.createRoot(document.getElementById('root'));
```

18

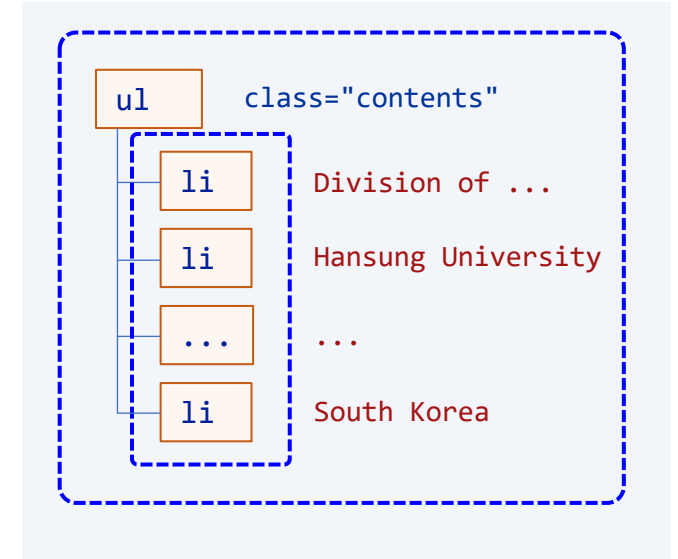
```
const address = [  
  "Division of Computer Engineering",  
  "Hansung University",  
  "116",  
  "Samseongyo-ro",  
  "16-gil",  
  "Seongbuk-gu",  
  "Seoul",  
  "02876",  
  "South Korea"  
];
```


실습24-1~2: 함수형 컴포넌트에서 JSX 활용 (react@18)

```
/* ch04/ex/ex24-1.html from ch04/03/01-2.html */
const Address = function(){
  return React.createElement(
    "ul",
    { className: "address" },
    address.map( (addr, i) => React.createElement("li", {key: i}, addr) )
  );
}

const root = ReactDOM.createRoot(document.getElementById('root'));
```

16



```
/* ch04/ex/ex24-2.html from ch04/03/01-3.html */
const Address = function(props){
  return React.createElement(
    "ul",
    { className: "address" },
    props.data.map( (addr, i) => React.createElement("li", {key: i}, addr) )
  );
}

const root = ReactDOM.createRoot(document.getElementById('root'));
```

18

```
const address = [
  "Division of Computer Engineering",
  "Hansung University",
  "116",
  "Samseongyo-ro",
  "16-gil",
  "Seongbuk-gu",
  "Seoul",
  "02876",
  "South Korea"
];
```

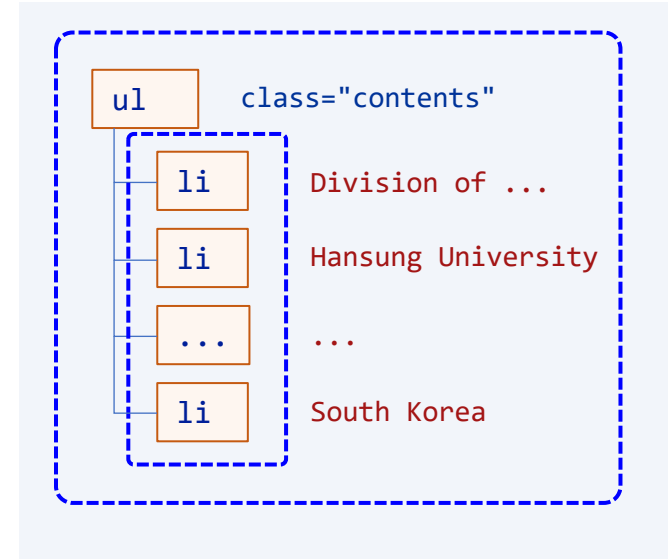
실습25-1~2: 클래스형 컴포넌트 (react@16, react@18)

```
/* ch04/ex/ex25-1.html from ch04/03/02-2.html */
class Address extends React.Component {

}

ReactDOM.render(
  React.createElement(Address, { address }, null),
  document.getElementById("root")
);
```

16



```
/* ch04/ex/ex25-2.html from ch04/03/02-2.html */
class Address extends React.Component {

}

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render( <Address data={address} /> );
```

18

```
const address = [
  "Division of Computer Engineering",
  "Hansung University",
  "116",
  "Samseongyo-ro",
  "16-gil",
  "Seongbuk-gu",
  "Seoul",
  "02876",
  "South Korea"
];
```