

React For The Rest Of Us (2021)

by Brad Schiff

Learn React JS to create Single Page Applications (SPA) using modern practices like Context, Reducer, Suspense and more

<https://www.udemy.com/course/react-for-the-rest-of-us/>

Theory code example

[placeholder to enter some parameters]

Real code example

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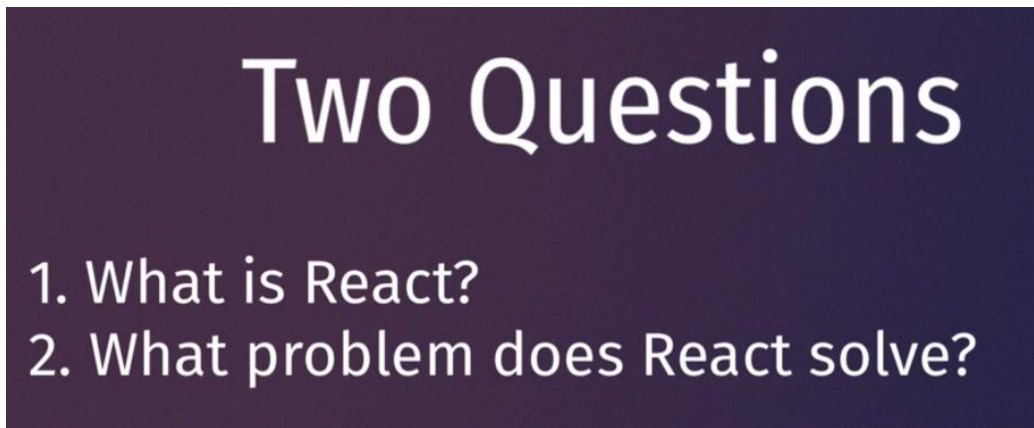
```

1  const useState = React.useState
2  ▼ const MyApp = () => {
3      const initialArray = [{ name: "Meowsalot", species: "cat", age: "5", id: 123456789 }]
4      const [allPets, setAllPets] = useState(initialArray)
5  ▼  const AddPet = props => {
6          const [name, setName] = useState('')
7          const [species, setSpecies] = useState('')
8          const [age, setAge] = useState('')
9  ▼  const handleSubmit = e => {
10     e.preventDefault()
11  ▼     if(name === '' || species === '' || age === ''){
12         setName('')
13         setSpecies('')
14         setAge('')
15  ▼     } else {
16         props.set(prev => prev.concat({name, species, age, id: Date.now()}))
17         setName('')
18         setSpecies('')
19         setAge('')
20     }
21     }
22     return <form onSubmit={handleSubmit}>
23  ▼         <fieldset>
24  ▼             <legend>Add New Pet</legend>
25                 <input value={name} onChange={e => setName(e.target.value)} placeholder="Name" />
26                 <input value={species} onChange={e => setSpecies(e.target.value)} placeholder="species" />
27                 <input value={age} onChange={e => setAge(e.target.value)} placeholder="age in years" />
28  ▼                 <button onClick={handleSubmit}>Add Pet</button>
29             </fieldset>
30         </form>}
31
32  ▼  const ShowAll = props => {
33     return <> <div>ALL THE PETS:</div>
34  ▼     {props.all.map(el => <li>{el.name} is a {el.species} and it is {el.age} years old!</li>)} </>
35     return <> <AddPet set={setAllPets}/> <ShowAll all={allPets}/></>
36     ReactDOM.render(<MyApp />, document.querySelector("#app"))

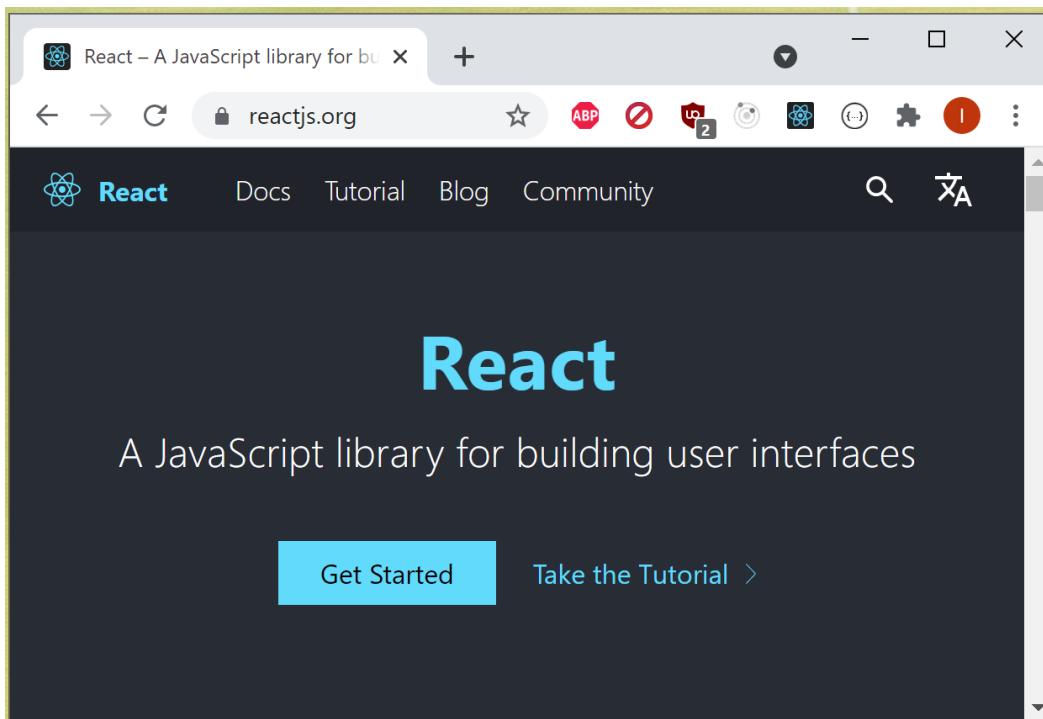
```

1 Intro

1.1 Two main questions about REACT



1.1.1 What is REACT?



1.1.2 What problems does REACT solve?



1.2 Playground with codepen.io

I have created a simple HTML document with only 1 element (div) - `<div id="app"></div>`

Now I will try to change a content of this HTML page with JS (React)

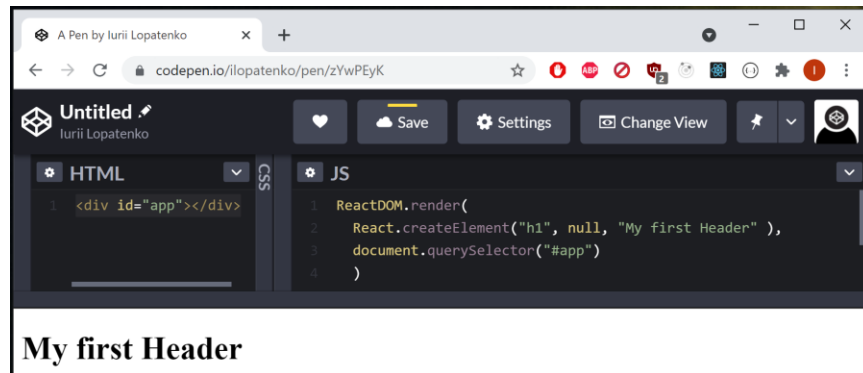
`ReactDOM.render([content to render] , [place to render])`

To create `[place to render]` I am going to use `document.querySelector("[element]")`

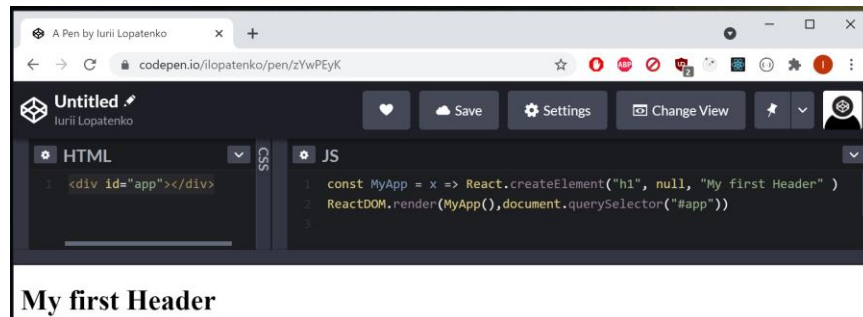
`document.querySelector("app")`

To create `[content to render]` I am going to use `React.createElement([set a type] , [set a properties] , [set a content/children])`

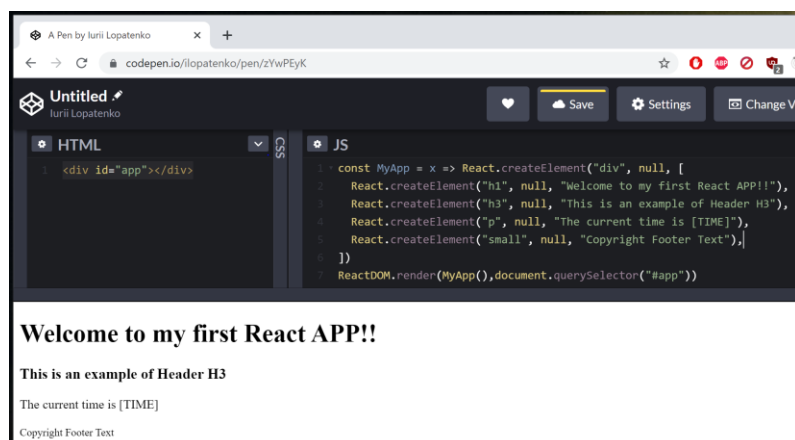
`React.createElement("h1" , null , "My first Header")`



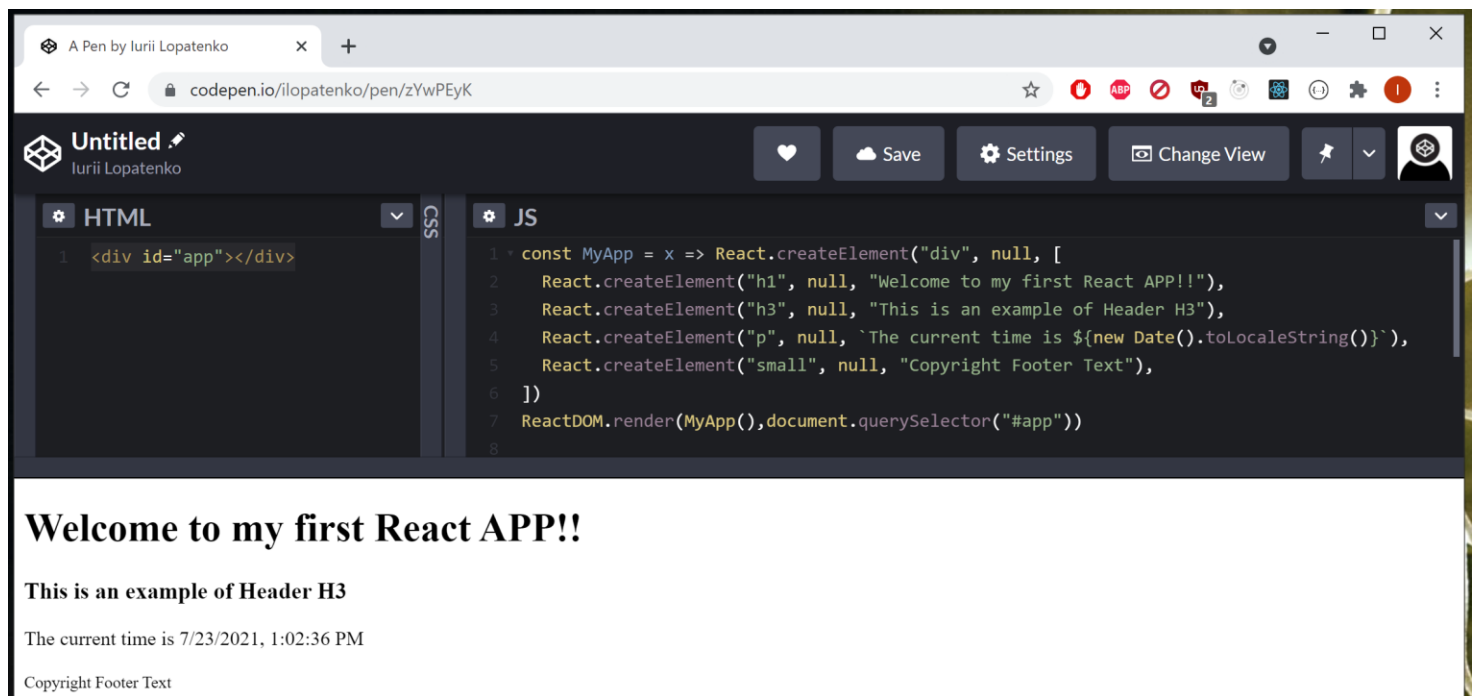
Create a MODULE MyApp (this Module will create a new HTML element (h1 with some text) and return it)



Use `[set of children]` to create few elements inside a root element (div):



Pass a Date object to a HTML page (now date is not able to change on a page)



The screenshot shows a CodePen editor with the following code:

```
HTML: 1 <div id="app"></div>
```

```
JS: 1 const MyApp = x => React.createElement("div", null, [
2   React.createElement("h1", null, "Welcome to my first React APP!!"),
3   React.createElement("h3", null, "This is an example of Header H3"),
4   React.createElement("p", null, `The current time is ${new Date().toLocaleString()}`),
5   React.createElement("small", null, "Copyright Footer Text"),
6 ])
7 ReactDOM.render(MyApp(), document.querySelector("#app"))
```

The rendered output is:

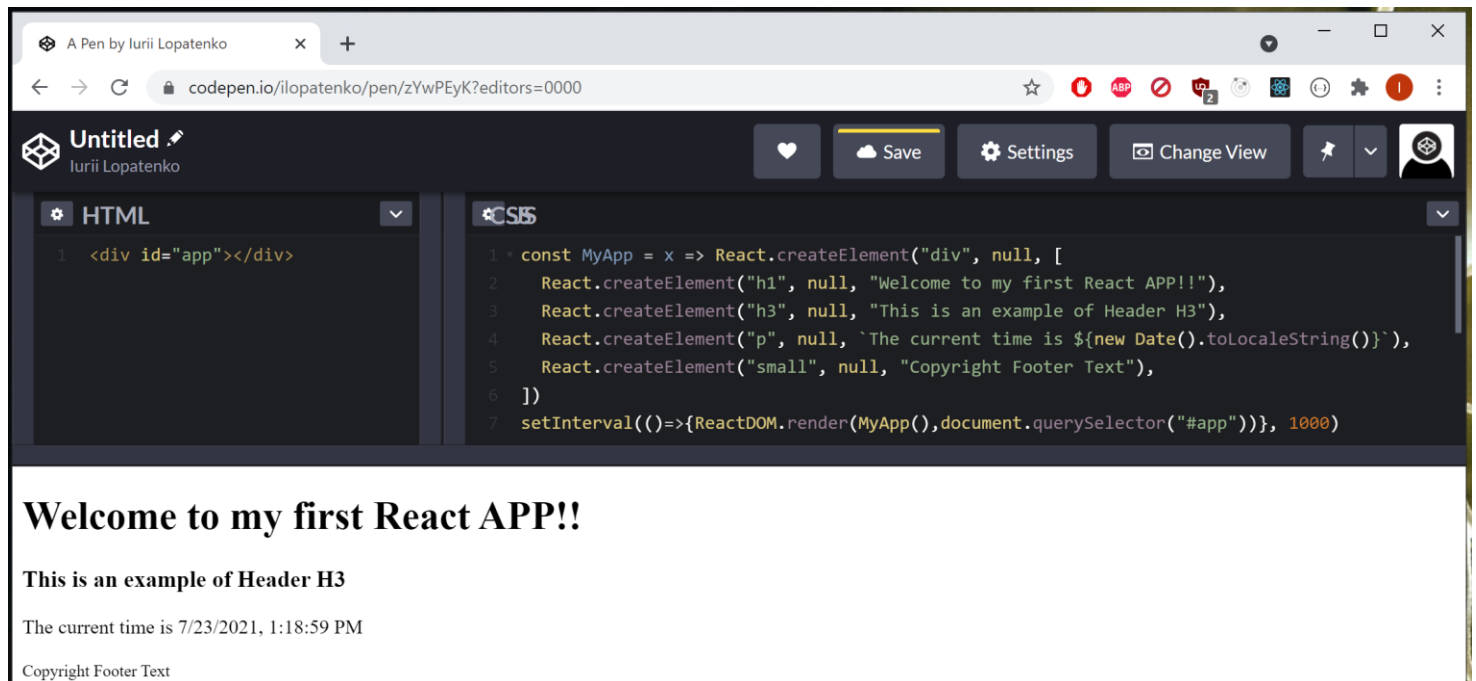
Welcome to my first React APP!!

This is an example of Header H3

The current time is 7/23/2021, 1:02:36 PM

Copyright Footer Text

Implement auto page refresh. `setInterval(() => { [MainComponent] }, [interval])`



The screenshot shows a CodePen editor with the following code:

```
HTML: 1 <div id="app"></div>
```

```
JS: 1 const MyApp = x => React.createElement("div", null, [
2   React.createElement("h1", null, "Welcome to my first React APP!!"),
3   React.createElement("h3", null, "This is an example of Header H3"),
4   React.createElement("p", null, `The current time is ${new Date().toLocaleString()}`),
5   React.createElement("small", null, "Copyright Footer Text"),
6 ])
7 setInterval(()=>ReactDOM.render(MyApp(),document.querySelector("#app"))), 1000)
```

The rendered output is:

Welcome to my first React APP!!

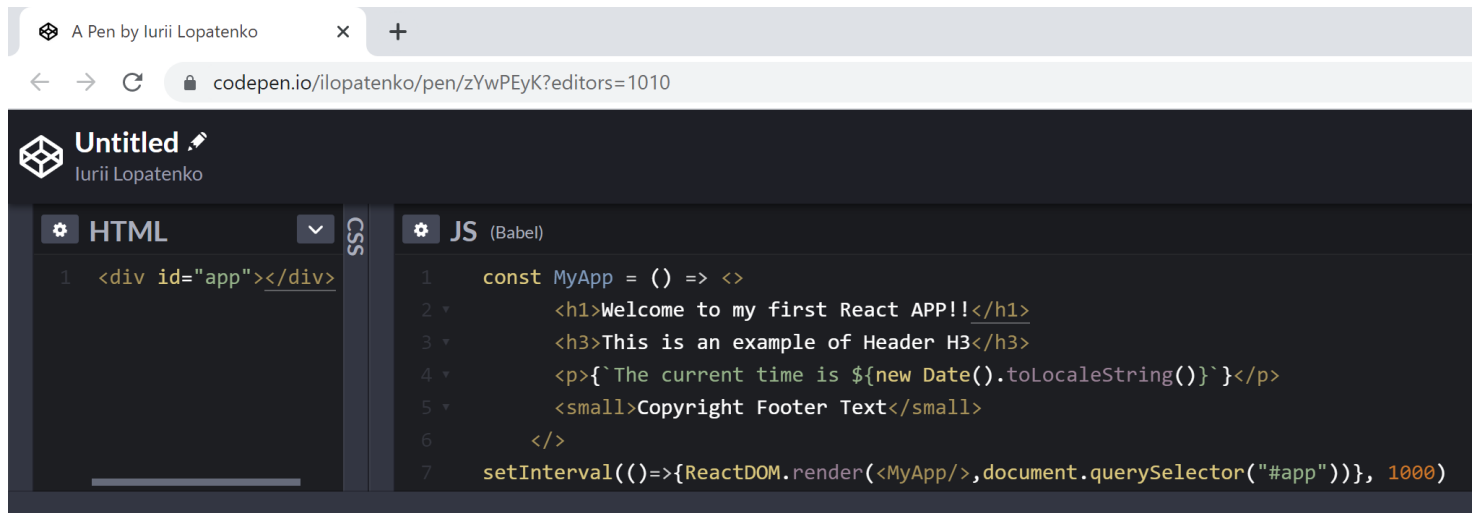
This is an example of Header H3

The current time is 7/23/2021, 1:18:59 PM

Copyright Footer Text

1.3 JSX (BABEL JS preprocessor)

Rewrite my app with using JSX syntax:



The screenshot shows the CodePen editor interface. The top bar indicates 'A Pen by Iurii Lopatenko'. The browser address bar shows 'codepen.io/ilopatenko/pen/zYwPEyK?editors=1010'. The editor has three tabs: HTML, CSS, and JS (Babel). The HTML tab contains a single line: `<div id="app"></div>`. The JS (Babel) tab contains the following code:

```
1 const MyApp = () => <>
2   <h1>Welcome to my first React APP!!</h1>
3   <h3>This is an example of Header H3</h3>
4   <p>`The current time is ${new Date().toLocaleString()}`</p>
5   <small>Copyright Footer Text</small>
6 </>
7 setInterval(()=>{ReactDOM.render(<MyApp/>,document.querySelector("#app"))}, 1000)
```

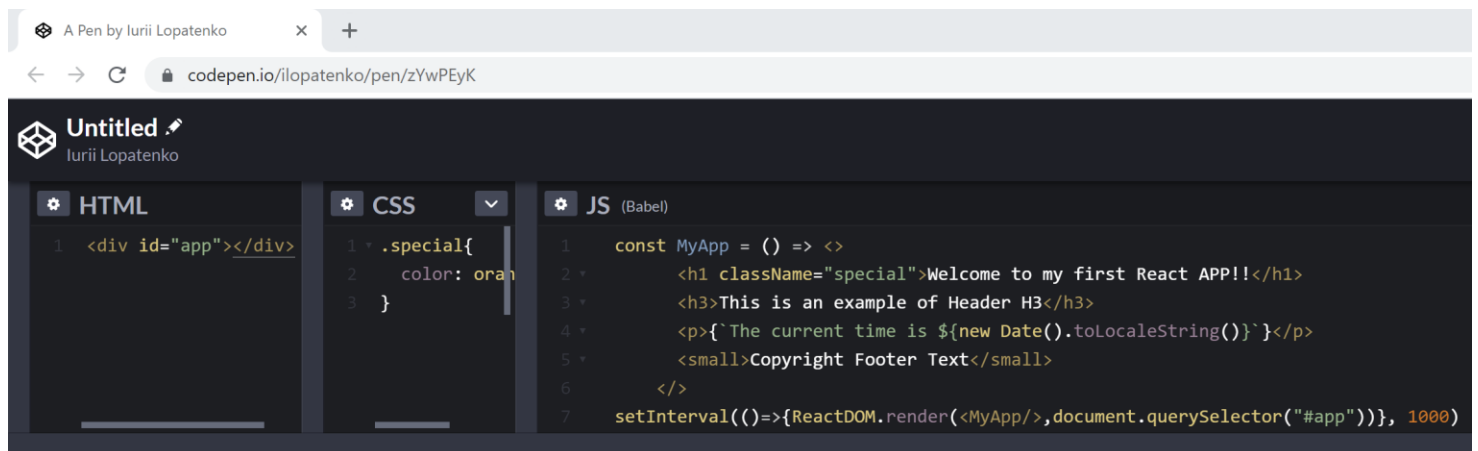
Welcome to my first React APP!!

This is an example of Header H3

The current time is 7/23/2021, 1:48:45 PM

Copyright Footer Text

JSX also can work with CSS:



The screenshot shows the CodePen editor interface. The top bar indicates 'A Pen by Iurii Lopatenko'. The browser address bar shows 'codepen.io/ilopatenko/pen/zYwPEyK'. The editor has three tabs: HTML, CSS, and JS (Babel). The HTML tab contains a single line: `<div id="app"></div>`. The CSS tab contains the following code:

```
1 .special{
2   color: orange;
3 }
```

The JS (Babel) tab contains the following code:

```
1 const MyApp = () => <>
2   <h1 className="special">Welcome to my first React APP!!</h1>
3   <h3>This is an example of Header H3</h3>
4   <p>`The current time is ${new Date().toLocaleString()}`</p>
5   <small>Copyright Footer Text</small>
6 </>
7 setInterval(()=>{ReactDOM.render(<MyApp/>,document.querySelector("#app"))}, 1000)
```

Welcome to my first React APP!!

This is an example of Header H3

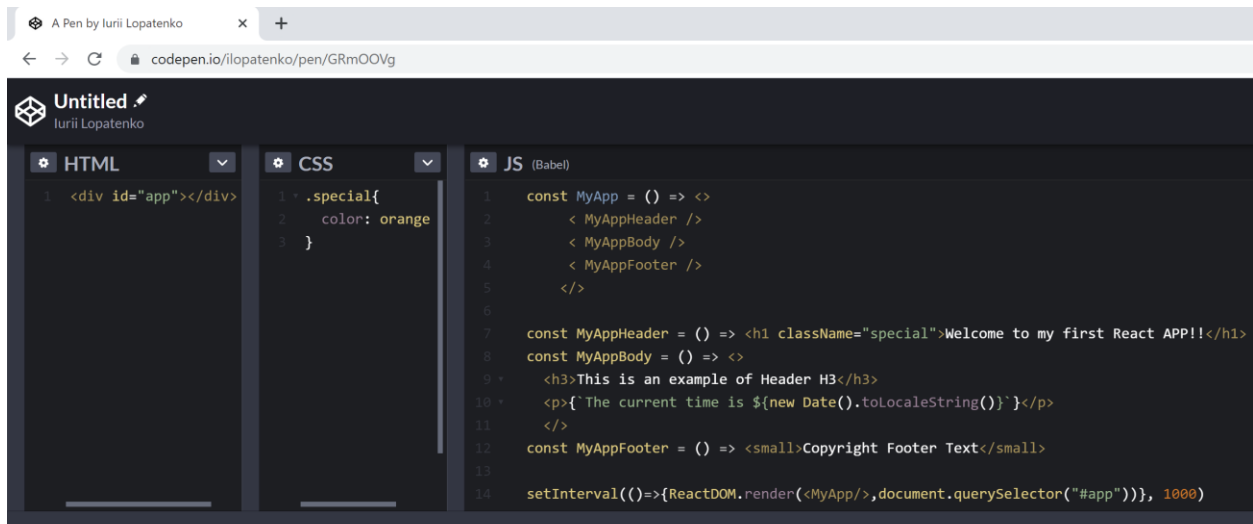
The current time is 7/23/2021, 1:51:19 PM

Copyright Footer Text

<https://codepen.io/ilopatenko/pen/zYwPEyK>

1.4 Nested Components in React

One of the most important concept in React – split out all the code into a small separate logical pieces and reuse them many times wherever we want.



```
HTML
1 <div id="app"></div>

CSS
1 .special{
2   color: orange
3 }

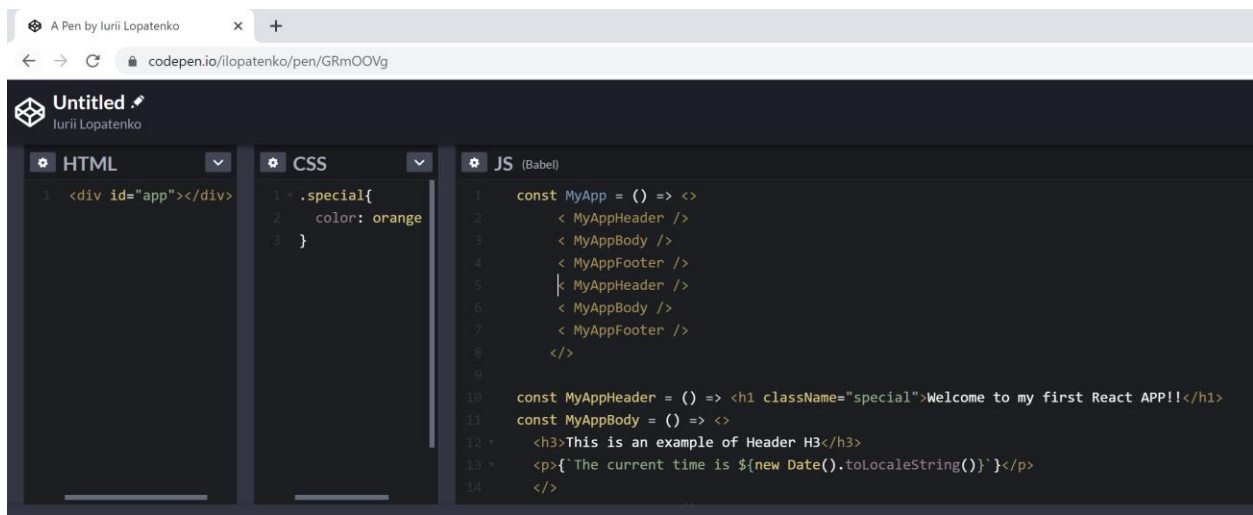
JS (Babel)
1 const MyApp = () => <>
2   < MyAppHeader />
3   < MyAppBody />
4   < MyAppFooter />
5 </>
6
7 const MyAppHeader = () => <h1 className="special">Welcome to my first React APP!!</h1>
8 const MyAppBody = () => <>
9   <h3>This is an example of Header H3</h3>
10  <p>{`The current time is ${new Date().toLocaleString()}`}</p>
11 </>
12 const MyAppFooter = () => <small>Copyright Footer Text</small>
13
14 setInterval(()=>ReactDOM.render(<MyApp/>,document.querySelector("#app"))), 1000)
```

Welcome to my first React APP!!

This is an example of Header H3

The current time is 7/23/2021, 2:13:51 PM

Copyright Footer Text



```
HTML
1 <div id="app"></div>

CSS
1 .special{
2   color: orange
3 }

JS (Babel)
1 const MyApp = () => <>
2   < MyAppHeader />
3   < MyAppBody />
4   < MyAppFooter />
5 </>
6
7 const MyAppHeader = () => <h1 className="special">Welcome to my first React APP!!</h1>
8 const MyAppBody = () => <>
9   <h3>This is an example of Header H3</h3>
10  <p>{`The current time is ${new Date().toLocaleString()}`}</p>
11 </>
12 const MyAppFooter = () => <small>Copyright Footer Text</small>
13
14 setInterval(()=>ReactDOM.render(<MyApp/>,document.querySelector("#app"))), 1000)
```

Welcome to my first React APP!!

This is an example of Header H3

The current time is 7/23/2021, 2:15:17 PM

Copyright Footer Text

Welcome to my first React APP!!

This is an example of Header H3

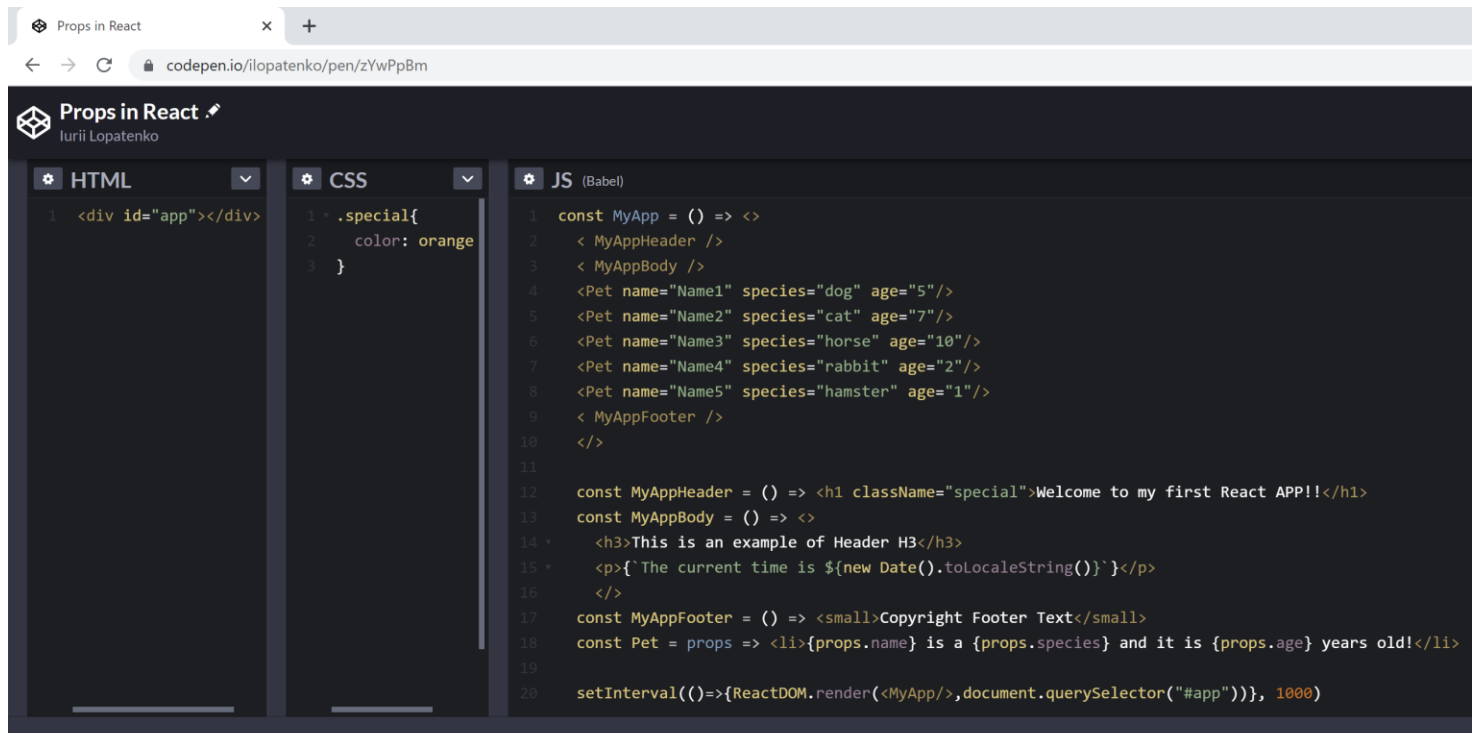
The current time is 7/23/2021, 2:15:17 PM

Copyright Footer Text

<https://codepen.io/ilopatenko/pen/GRmOOVg>

1.5 Properties (Props) in React

Props allow us to send data to Components.



The screenshot shows a CodePen editor with three tabs: HTML, CSS, and JS. The HTML tab contains a single `<div id="app"></div>` tag. The CSS tab contains a `.special` class with `color: orange`. The JS tab contains the following code:

```
1 const MyApp = () => <>
2   < MyAppHeader />
3   < MyAppBody />
4   <Pet name="Name1" species="dog" age="5"/>
5   <Pet name="Name2" species="cat" age="7"/>
6   <Pet name="Name3" species="horse" age="10"/>
7   <Pet name="Name4" species="rabbit" age="2"/>
8   <Pet name="Name5" species="hamster" age="1"/>
9   < MyAppFooter />
10 </>
11
12 const MyAppHeader = () => <h1 className="special">Welcome to my first React APP!!</h1>
13 const MyAppBody = () => <>
14   <h3>This is an example of Header H3</h3>
15   <p>{`The current time is ${new Date().toLocaleString()}`}</p>
16 </>
17 const MyAppFooter = () => <small>Copyright Footer Text</small>
18 const Pet = props => <li>{props.name} is a {props.species} and it is {props.age} years old!</li>
19
20 setInterval(()=>{ReactDOM.render(<MyApp/>,document.querySelector("#app"))}, 1000)
```

Welcome to my first React APP!!

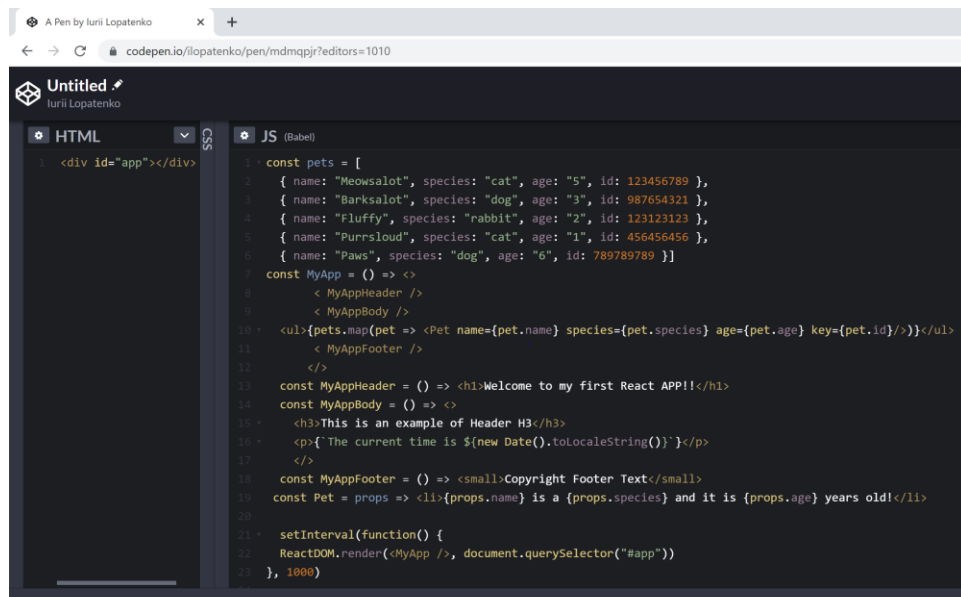
This is an example of Header H3

The current time is 7/23/2021, 2:38:05 PM

- Name1 is a dog and it is 5 years old!
 - Name2 is a cat and it is 7 years old!
 - Name3 is a horse and it is 10 years old!
 - Name4 is a rabbit and it is 2 years old!
 - Name5 is a hamster and it is 1 years old!
- Copyright Footer Text

<https://codepen.io/ilopatenko/pen/zYwPpBm>

1.6 Looping through an array in JSX



```
const pets = [
  { name: "Meowsalot", species: "cat", age: "5", id: 123456789 },
  { name: "Barksalot", species: "dog", age: "3", id: 987654321 },
  { name: "Fluffy", species: "rabbit", age: "2", id: 123123123 },
  { name: "Purrsalot", species: "cat", age: "1", id: 456456456 },
  { name: "Paws", species: "dog", age: "6", id: 789789789 }
]

const MyApp = () => <>
  <MyAppHeader />
  <MyAppBody />
  <MyAppFooter />
</>

const MyAppHeader = () => <h1>Welcome to my first React APP!!</h1>
const MyAppBody = () => <>
  <h3>This is an example of Header H3</h3>
  <p>{ The current time is ${new Date().toLocaleString()} }</p>
</>
const MyAppFooter = () => <small>Copyright Footer Text</small>
const Pet = props => <li>{props.name} is a {props.species} and it is {props.age} years old!</li>

setInterval(function() {
  ReactDOM.render(<MyApp />, document.querySelector("#app"))
}, 1000)
```

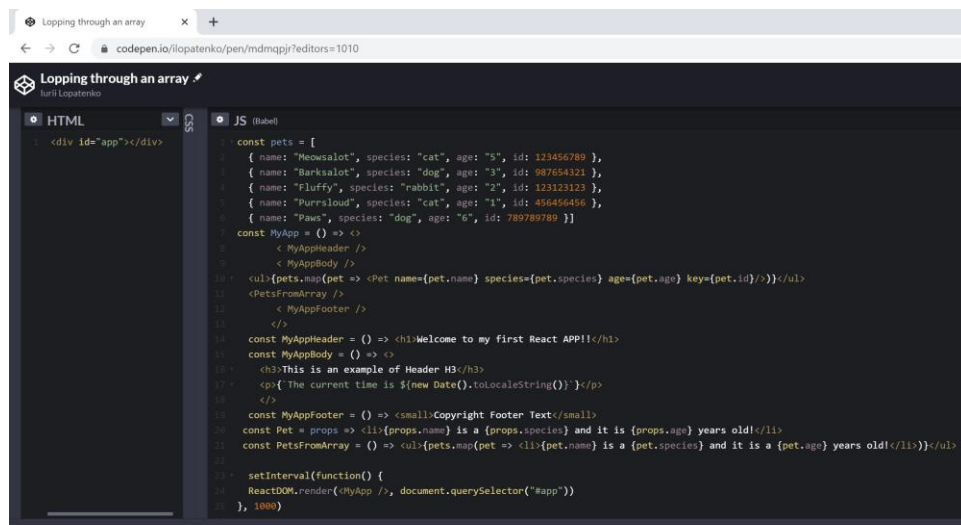
Welcome to my first React APP!!

This is an example of Header H3

The current time is 7/23/2021, 3:22:46 PM

- Meowsalot is a cat and it is 5 years old!
- Barksalot is a dog and it is 3 years old!
- Fluffy is a rabbit and it is 2 years old!
- Purrsalot is a cat and it is 1 years old!
- Paws is a dog and it is 6 years old!

Copyright Footer Text



```
const pets = [
  { name: "Meowsalot", species: "cat", age: "5", id: 123456789 },
  { name: "Barksalot", species: "dog", age: "3", id: 987654321 },
  { name: "Fluffy", species: "rabbit", age: "2", id: 123123123 },
  { name: "Purrsalot", species: "cat", age: "1", id: 456456456 },
  { name: "Paws", species: "dog", age: "6", id: 789789789 }
]

const MyApp = () => <>
  <MyAppHeader />
  <MyAppBody />
  <MyAppFooter />
</>

const MyAppHeader = () => <h1>Welcome to my first React APP!!</h1>
const MyAppBody = () => <>
  <h3>This is an example of Header H3</h3>
  <p>{ The current time is ${new Date().toLocaleString()} }</p>
</>
const MyAppFooter = () => <small>Copyright Footer Text</small>
const Pet = props => <li>{props.name} is a {props.species} and it is {props.age} years old!</li>
const PetsFromArray = () => <ul>{pets.map(pet => <li>{pet.name} is a {pet.species} and it is a {pet.age} years old!</li>)}</ul>

setInterval(function() {
  ReactDOM.render(<MyApp />, document.querySelector("#app"))
}, 1000)
```

Welcome to my first React APP!!

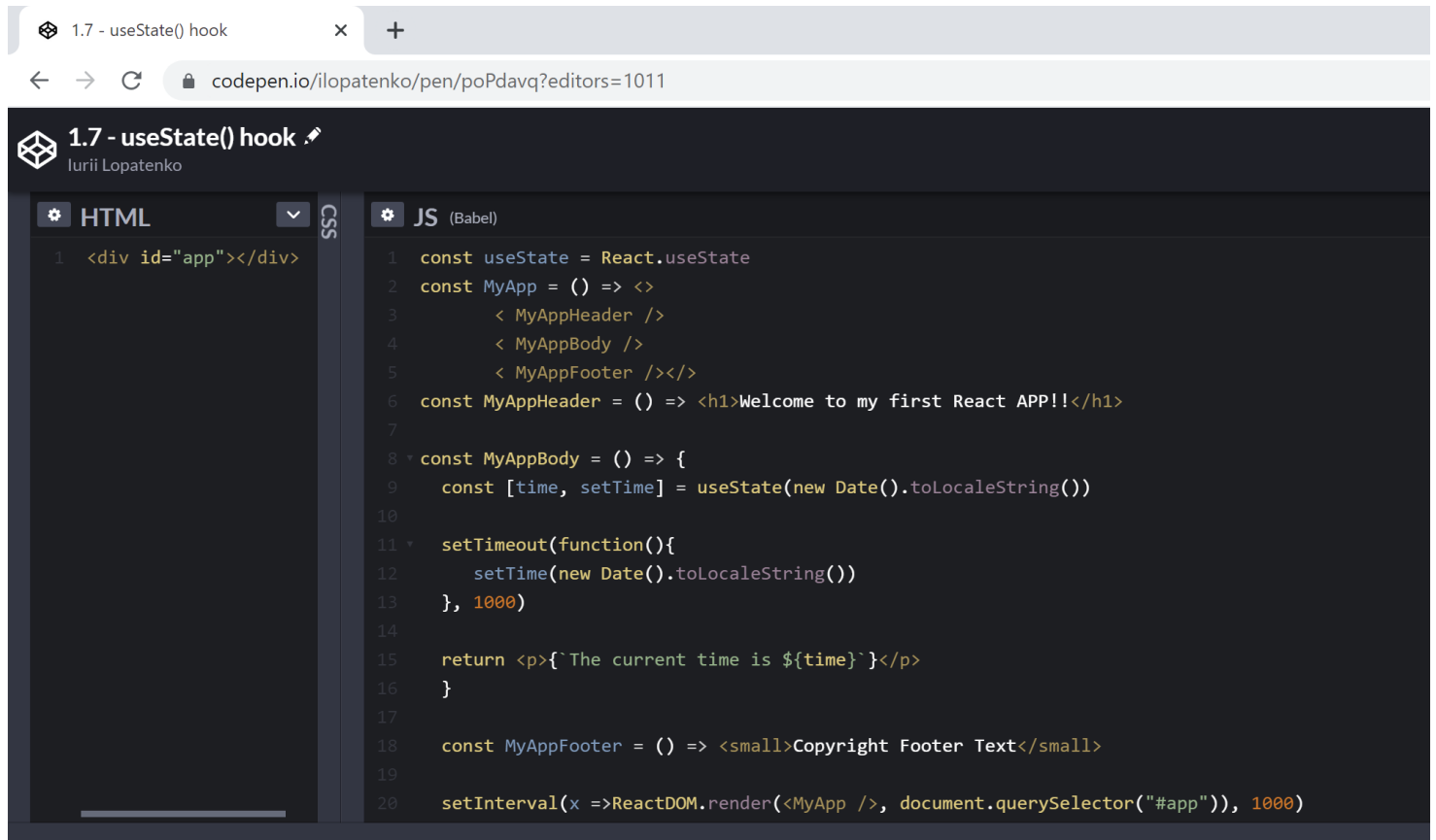
This is an example of Header H3

The current time is 7/23/2021, 3:31:35 PM

- Meowsalot is a cat and it is 5 years old!
 - Barksalot is a dog and it is 3 years old!
 - Fluffy is a rabbit and it is 2 years old!
 - Purrsalot is a cat and it is 1 years old!
 - Paws is a dog and it is 6 years old!
- Meowsalot is a cat and it is 5 years old!
 - Barksalot is a dog and it is 3 years old!
 - Fluffy is a rabbit and it is 2 years old!
 - Purrsalot is a cat and it is 1 years old!
 - Paws is a dog and it is 6 years old!

<https://codepen.io/ilopatenko/pen/mdmqpjr>

1.7 STATE in React (useState() hook)



1.7 - useState() hook

codepen.io/ilopatenko/pen/poPdavq?editors=1011

```
HTML
1 <div id="app"></div>

CSS

JS (Babel)
1 const useState = React.useState
2 const MyApp = () => <>
3   < MyAppHeader />
4   < MyAppBody />
5   < MyAppFooter /></>
6 const MyAppHeader = () => <h1>Welcome to my first React APP!!</h1>
7
8 const MyAppBody = () => {
9   const [time, setTime] = useState(new Date().toLocaleString())
10
11   setTimeout(function(){
12     setTime(new Date().toLocaleString())
13   }, 1000)
14
15   return <p>{`The current time is ${time}`}</p>
16 }
17
18 const MyAppFooter = () => <small>Copyright Footer Text</small>
19
20 setInterval(x =>ReactDOM.render(<MyApp />, document.querySelector("#app")), 1000)
```

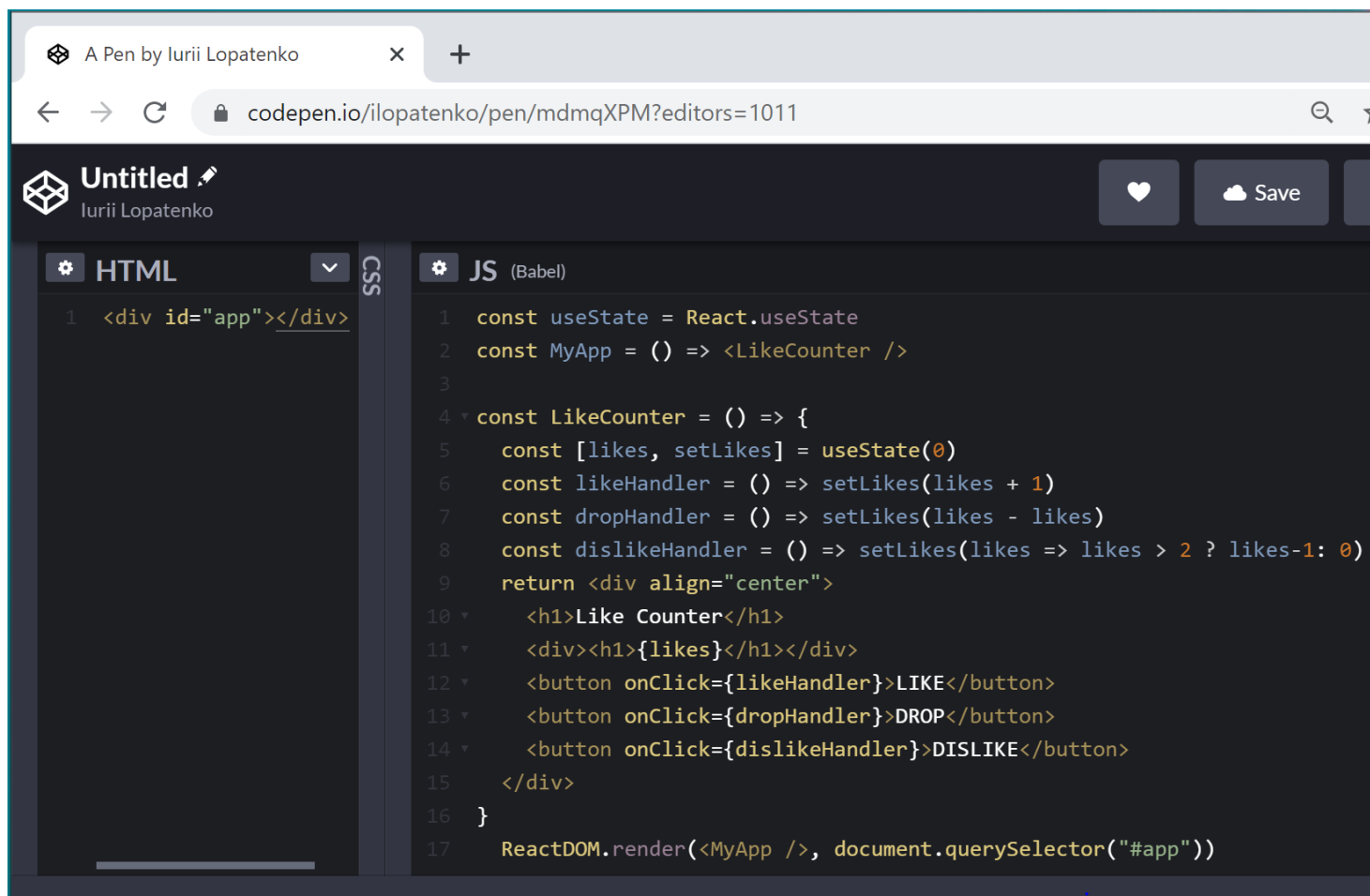
Welcome to my first React APP!!

The current time is 7/23/2021, 4:22:16 PM

Copyright Footer Text

<https://codepen.io/ilopatenko/pen/poPdavq>

1.8 Like counter (onClick event and onClickHandler)



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Like Counter

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LIKE DROP DISLIKE

<https://codepen.io/ilopatenko/pen/mdmqXPM>

1.9 Working with Forms

```
1  const useState = React.useState
2  const MyApp = () => {
3    const initialArray = [{ name: "Meowsalot", species: "cat", age: "5", id: 123456789 }]
4    const [allPets, setAllPets] = useState(initialArray)
5    const AddPet = props => {
6      const [name, setName] = useState('')
7      const [species, setSpecies] = useState('')
8      const [age, setAge] = useState('')
9      const handleSubmit = e => {
10       e.preventDefault()
11       if(name === '' || species === '' || age === ''){
12         setName('')
13         setSpecies('')
14         setAge('')
15       } else {
16         props.set(prev => prev.concat({name, species, age, id: Date.now()}))
17         setName('')
18         setSpecies('')
19         setAge('')
20       }
21     }
22     return <form onSubmit={handleSubmit}>
23       <fieldset>
24         <legend>Add New Pet</legend>
25         <input value={name} onChange={e => setName(e.target.value)} placeholder="Name" />
26         <input value={species} onChange={e => setSpecies(e.target.value)} placeholder="species" />
27         <input value={age} onChange={e => setAge(e.target.value)} placeholder="age in years" />
28         <button onClick={handleSubmit}>Add Pet</button>
29       </fieldset>
30     </form>}
31
32   const ShowAll = props => {
33     return <> <div>ALL THE PETS:</div>
34       {props.all.map(el => <li>{el.name} is a {el.species} and it is {el.age} years old!</li>)} </>
35     </> <AddPet set={setAllPets}/> <ShowAll all={allPets}/></>
36   }
37   ReactDOM.render(<MyApp />, document.querySelector("#app"))
```

<https://codepen.io/ilopatenko/pen/jOmaxOm>

e.preventDefault did not work correctly. I have implemented temporarily decision with checking.

