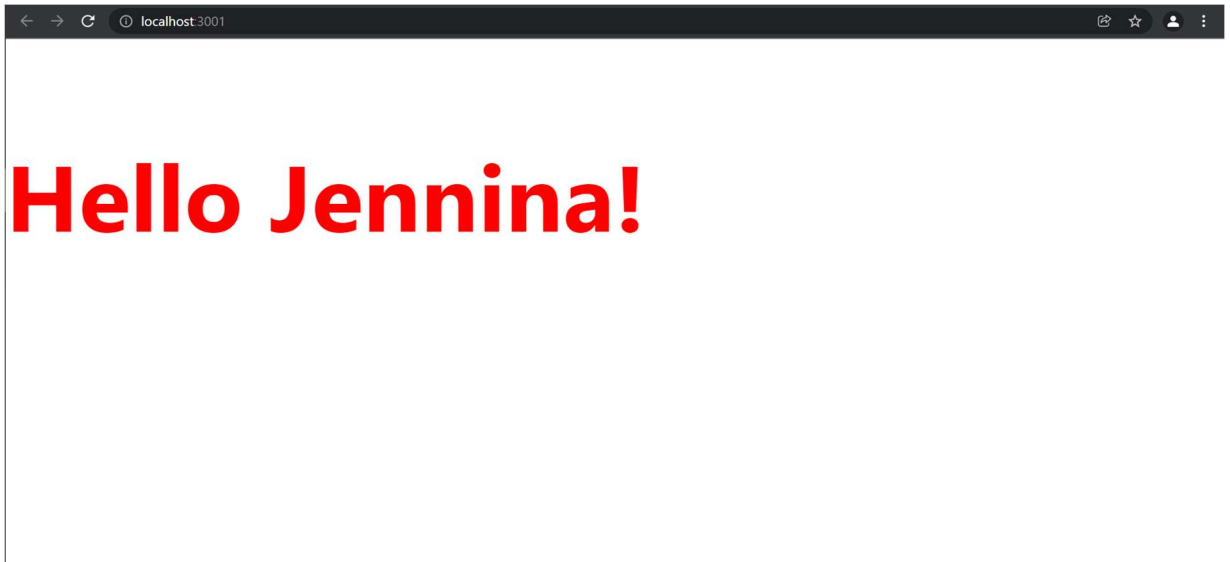## React Assignment:1

1. Install NodeJs, Visual studio code

2. create a Welcome component to greet the user using a javascript function, with a property called as name. Apply some css styling.Use the component in App component.

Welcome.js

```javascript
import React from 'react';
export default function Welcome(props){
    const style = {
        color: 'Red',
        fontSize: 100,
      };
    return(
        <div>
            <h3 style={style}>Hello {props.name}!</h3>
        </div>
    );
}
```

App.js

```javascript
import React from 'react';
import './App.css';
import Welcome from './Welcome';
class App extends React.Component {
  render() {
    return (
      <div>
      <Welcome name='Jennina'/>
      </div>
    );
  }
}

export default App;
```

Output:

3. Create a Component to add two numbers.

Add.js

```javascript
import React from 'react';

export default class Add extends React.Component{

    constructor(props){
        super(props);
        this.state = {
            num1:9,
            num2:19
        }
    }
    render(){
        return(
            <div>
                <h3>When you add 9 and 19, the answer is {this.state.num1 +
this.state.num2}</h3>
            </div>
        );
    }
}
```

App.js

```
import React from 'react';
import './App.css';
import Add from './Add;

class App extends React.Component {
  render() {
    return (
      <div>
      <Add/>
      </div>
    );
  }
}

export default App;
```

Output:

```
← → C  ⓘ localhost:3001                                    ⬆ ☆ ▲ :

When you add 9 and 19, the answer is 28
```

4. Modify the card component to add a props age and perform the validation,to

    check it's a number.

Card.js

```jsx
import React from 'react';
import PropTypes from 'prop-types';

export default class Card extends React.Component{
    constructor(props){
        super(props);
    }
    render(){
        return(
            <div>
                <h3>Hi! My name is {this.props.name} and I am {this.props.age} years
old.</h3>
            </div>
        );
    }
}

Card.propTypes = {
    age: PropTypes.number
}
```

App.js (when age is a number)

```jsx
import React from 'react';
import './App.css';
import Card from './Card';

class App extends React.Component {
  render() {
    return (
      <div>
      <Card name='Jennina' age={23}/>
      </div>
    );
  }
}

export default App;
```
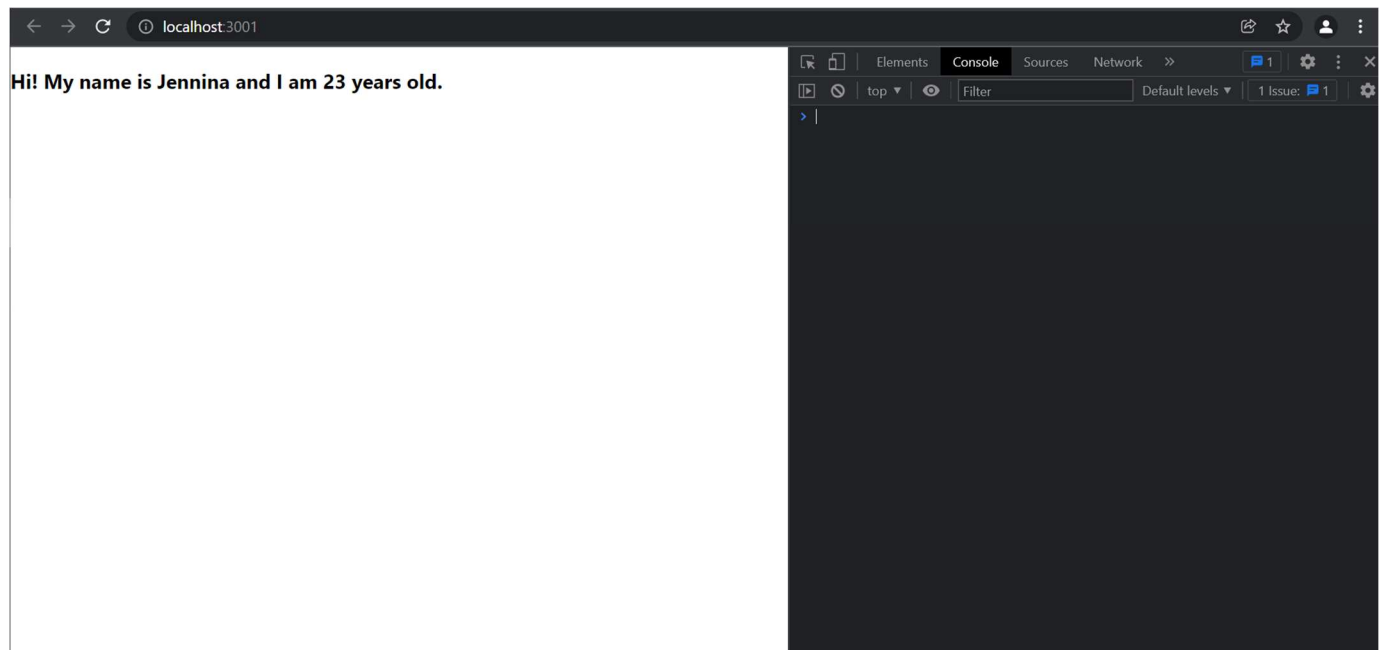
App.js (when age is a string)

```javascript
import React from 'react';
import './App.css';
import Card from './Card';

class App extends React.Component {
  render() {
    return (
      <div>
      <Card name='Jennina' age={23}/>
      </div>
    );
  }
}

export default App;
```
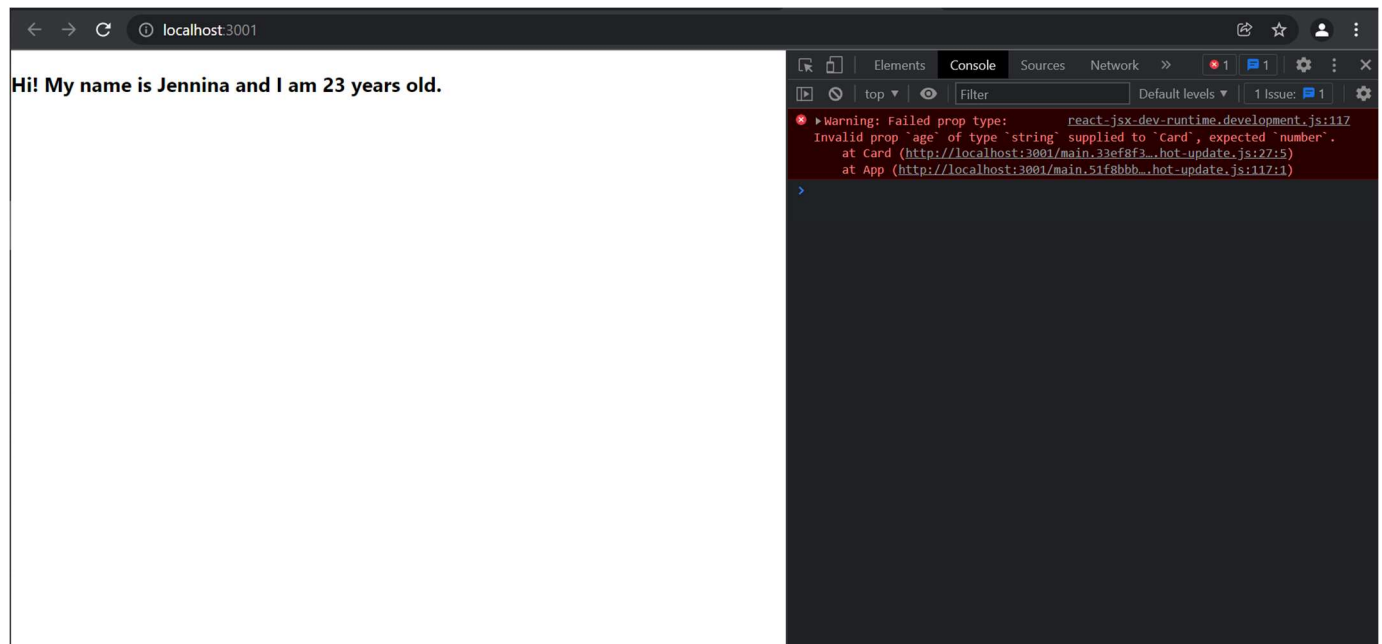
Output (when age is a number)

Output (when age is a string)

5. What is Virtual DOM in ReactJS

Virtual DOM is just a copy of the original DOM kept in the memory and synced with the real DOM by libraries such as ReactDOM. This process is called Reconciliation.

If there is a update in the virtual DOM, React compares it with the virtual DOM snapshot that was taken right before the update. This way React figures out exactly which virtual DOM objects have changed. This process is called Diffing.

Once React knows which virtual DOM objects have changed, then React updates those objects, and only those objects, on the real DOM. Therefore, React only updates the necessary objects needed.