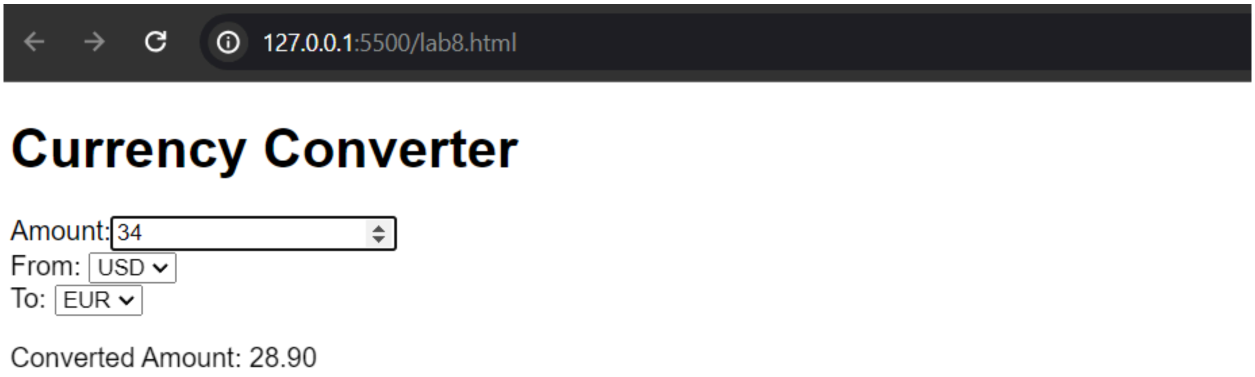
Q.1

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Currency Converter</title>
  <style>
    /* CSS styles */
    body {
      font-family: Arial, sans-serif;
    }
    label {
      margin-right: 10px;
    }
    select {
      margin-left: 5px;
    }
  </style>
</head>
<body>
  <div id="root"></div>
  <script src="https://unpkg.com/react@17/umd/react.development.js"></script>
  <script src="https://unpkg.com/react-dom@17/umd/react-dom.development.js"></script>
  <script>
    // ReactJS code
    const { useState } = React;

    function CurrencyConverter() {
      const [amount, setAmount] = useState('');
      const [fromCurrency, setFromCurrency] = useState('USD');
      const [toCurrency, setToCurrency] = useState('EUR');
      const exchangeRate = 0.85; // Example exchange rate (1 USD =
0.85 EUR)

      const handleAmountChange = (event) => {
        setAmount(event.target.value);
      };

      const handleFromCurrencyChange = (event) => {
        setFromCurrency(event.target.value);
      };

      const handleToCurrencyChange = (event) => {
        setToCurrency(event.target.value);
      };

      const convertCurrency = () => {
        const convertedAmount = parseFloat(amount) * exchangeRate;
        return isNaN(convertedAmount) ? '' :
convertedAmount.toFixed(2);
      };

      return React.createElement(
        'div',
        null,
        React.createElement('h1', null, 'Currency Converter'),
        React.createElement(
          'div',
          null,
          React.createElement(
            'label',
            null,
            'Amount:',
            React.createElement('input', { type: 'number', value:
amount, onChange: handleAmountChange })
          )
        ),
        React.createElement(
          'div',
          null,
          React.createElement(
            'label',
            null,
            'From:',
            React.createElement(
              'select',
              { value: fromCurrency, onChange:
handleFromCurrencyChange },
              React.createElement('option', { value: 'USD' }, 'USD'),
              React.createElement('option', { value: 'EUR' }, 'EUR')
            )
          )
        ),
        React.createElement(
          'div',
          null,
          React.createElement(
            'label',
            null,
            'To:',
            React.createElement(
              'select',
              { value: toCurrency, onChange: handleToCurrencyChange
},
              React.createElement('option', { value: 'USD' }, 'USD'),
              React.createElement('option', { value: 'EUR' }, 'EUR')
            )
          )
        ),
        React.createElement(
          'div',
          null,
          React.createElement('p', null, 'Converted Amount: ',
convertCurrency())
        )
        );
      }

    ReactDOM.render(React.createElement(CurrencyConverter),
document.getElementById('root'));
  </script>
</body>
</html>
```

Output:



Currency Converter

Amount: 34

From: USD

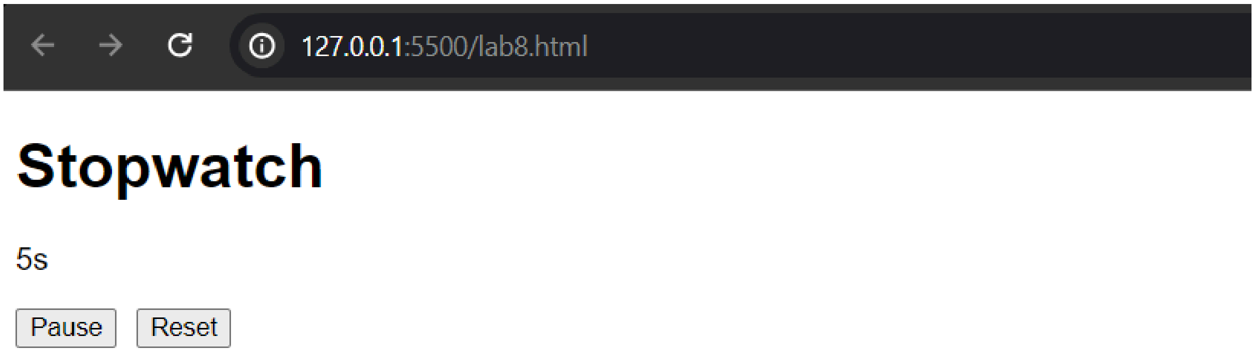
To: EUR

Converted Amount: 28.90

Q.2

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1.0">
  <title>Stopwatch</title>
  <style>
    /* CSS styles */
    body {
      font-family: Arial, sans-serif;
    }
    button {
      margin-right: 10px;
    }
  </style>
</head>
<body>
  <div id="root"></div>
  <script
src="https://unpkg.com/react@17/umd/react.development.js"></script>
  <script
src="https://unpkg.com/react-dom@17/umd/react-dom.development.js"></s
cript>
  <script
src="https://cdnjs.cloudflare.com/ajax/libs/babel-standalone/6.26.0/b
abel.min.js"></script>
  <script type="text/babel">
    // ReactJS code
    const { useState, useEffect } = React;

    function Stopwatch() {
      const [timer, setTimer] = useState(0);
      const [isActive, setIsActive] = useState(false);

      useEffect(() => {
        let interval;
        if (isActive) {
          interval = setInterval(() => {
            setTimer((prevTimer) => prevTimer + 1);
          }, 1000);
        } else {
          clearInterval(interval);
        }
        return () => clearInterval(interval);
      }, [isActive]);

      const handleStart = () => {
        setIsActive(true);
      };

      const handlePause = () => {
        setIsActive(false);
      };

      const handleReset = () => {
        setIsActive(false);
        setTimer(0);
      };

      return (
        <div>
          <h1>Stopwatch</h1>
          <div>
            <p>{timer}s</p>
          </div>
          <div>
            {!isActive ? (
              <button onClick={handleStart}>Start</button>
            ) : (
              <button onClick={handlePause}>Pause</button>
            )}
            <button onClick={handleReset}>Reset</button>
          </div>
        </div>
      );
    }

    ReactDOM.render(<Stopwatch />, document.getElementById('root'));
  </script>
</body>
</html>
```

Output:



Stopwatch

5s

Q.3

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8" />
    <title>Simple Messaging App</title>
    <style>
      body {
        font-family: Arial, sans-serif;
      }
      #conversations {
        list-style-type: none;
        padding: 0;
        margin: 0;
      }
      #conversations li {
        padding: 10px;
        border-bottom: 1px solid #ddd;
        cursor: pointer;
      }
      #conversations li:hover {
        background-color: #f5f5f5;
      }
      #messages {
        list-style-type: none;
        padding: 0;
        margin: 0;
        height: 300px;
        overflow-y: auto;
      }
      #messages li {
        padding: 10px;
        border-bottom: 1px solid #ddd;
      }
      #message-input {
        width: 100%;
        padding: 10px;
      }
      #send-button {
        padding: 10px;
        background-color: #4CAF50;
        color: white;
        border: none;
        cursor: pointer;
      }
      #send-button:hover {
        background-color: #45a049;
      }
    </style>
  </head>
  <body>
    <h1>Simple Messaging App</h1>
    <ul id="conversations"></ul>
    <ul id="messages"></ul>
    <input id="message-input" type="text" placeholder="Type a message..." />
    <button id="send-button">Send</button>
    <script
src="https://unpkg.com/react@16.13.1/umd/react.development.js"></scri
pt>
    <script
src="https://unpkg.com/react-dom@16.13.1/umd/react-dom.development.js
"></script>
    <script
src="https://unpkg.com/babel-standalone@6.26.0/babel.min.js"></script
>
    <script
src="https://unpkg.com/push.js@1.0.12/push.min.js"></script>
    <script type="text/babel">
      class Conversation extends React.Component {
        constructor(props) {
          super(props);
          this.state = {
            messages: [],
          };
          this.sendMessage = this.sendMessage.bind(this);
        }
        componentDidMount() {
          this.getMessages();
          this.interval = setInterval(() => this.getMessages(),
1000);
        }
        componentWillUnmount() {
          clearInterval(this.interval);
        }
        getMessages() {

fetch(`/api/conversations/${this.props.conversation.id}/messages`)
           .then((response) => response.json())
           .then((data) => {
              this.setState({ messages: data });
            });
        }
    sendMessage() {
     const message = {
      text: document.getElementById("message-input").value,
     };

fetch(`/api/conversations/${this.props.conversation.id}/messages`, {
      method: "POST",
      headers: {
       "Content-Type": "application/json",
      },
      body: JSON.stringify(message),
     })
     .then((response) => response.json())
     .then((data) => {
       this.getMessages();
       document.getElementById("message-input").value = "";
       Push.create("New message", {
        body: data.text,
        timeout: 4000,
       });
      });
    }
    render() {
     return (
      <div>
       <h2>{this.props.conversation.name}</h2>
       <ul id="messages">
        {this.state.messages.map((message) => (
         <li key={message.id}>{message.text}</li>
        ))}
       </ul>
       <input
        id="message-input"
        type="text"
        placeholder="Type a message..."
        onKeyPress={(event) => {
         if (event.key === "Enter") {
```

```
                    this.sendMessage();
                  }
                }}
              />
              <button id="send-button" onClick={this.sendMessage}>
                Send
              </button>
            </div>
          );
        }
      }
      class Conversations extends React.Component {
        constructor(props) {
          super(props);
          this.state = {
            conversations: [],
          };
        }
        componentDidMount() {
          fetch("/api/conversations")
           .then((response) => response.json())
           .then((data) => {
              this.setState({ conversations: data });
            });
        }
        render() {
          return (
            <ul id="conversations">
              {this.state.conversations.map((conversation) => (
                <li key={conversation.id} onClick={() =>
this.props.onSelect(conversation)}>
                  {conversation.name}
                </li>
              ))}
            </ul>
          );
        }
      }
      class App extends React.Component {
        constructor(props) {
          super(props);
          this.state = {
            selectedConversation: null,
          };
          this.onSelectConversation =
this.onSelectConversation.bind(this);
        }
        onSelectConversation(conversation) {
          this.setState({ selectedConversation: conversation });
        }
        render() {
          return (
            <div>
              <Conversations onSelect={this.onSelectConversation} />
              {this.state.selectedConversation && (
                <Conversation
conversation={this.state.selectedConversation} />
              )}
            </div>
          );
        }
      }
      ReactDOM.render(<App />, document.getElementById("root"));
    </script>
  </body>
</html>
```