WEB TECH LAB - 8

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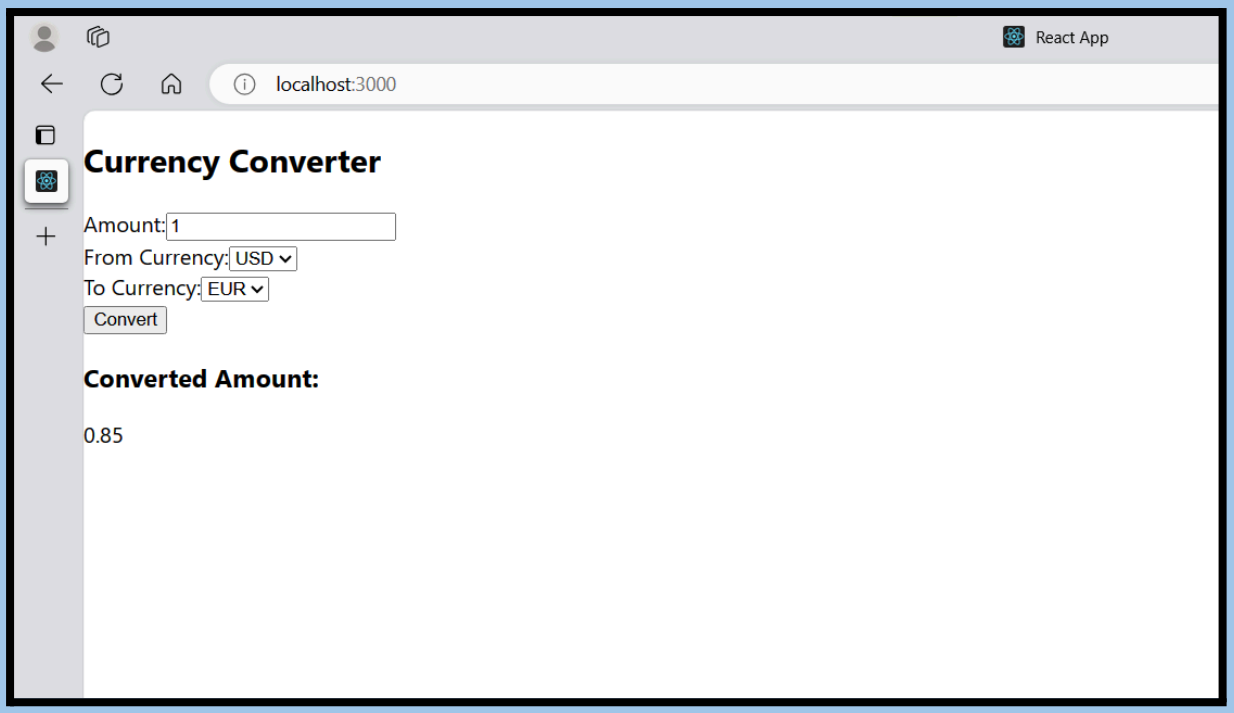
T1. Develop a currency converter application that allows users to input an amount in one currency and convert it to another. For the sake of this challenge, you can use a hard-coded exchange rate. Take advantage of React state and event handlers to manage the input and conversion calculations.

ANSWER:

```
import React, { useState } from 'react';

const CurrencyConverter = () => {
  const [amount, setAmount] = useState('');
  const [fromCurrency, setFromCurrency] = useState('USD');
  const [toCurrency, setToCurrency] = useState('EUR');
  const [convertedAmount, setConvertedAmount] = useState('');

  const exchangeRate = 0.85;

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

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

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

```
  const convertCurrency = () => {
    const convertedValue = amount * exchangeRate;
    setConvertedAmount(convertedValue.toFixed(2));
  };

  return (
    <div>
      <h2>Currency Converter</h2>
      <div>
        <label htmlFor="amount">Amount:</label>
        <input type="number" id="amount" value={amount} onChange={handleAmountChange} />
      </div>
      <div>
        <label htmlFor="fromCurrency">From Currency:</label>
        <select id="fromCurrency" value={fromCurrency} onChange={handleFromCurrencyChange}>
          <option value="USD">USD</option>
        </select>
      </div>
      <div>
        <label htmlFor="toCurrency">To Currency:</label>
        <select id="toCurrency" value={toCurrency} onChange={handleToCurrencyChange}>
          <option value="EUR">EUR</option>
        </select>
      </div>
      <button onClick={convertCurrency}>Convert</button>
      <div>
        <h3>Converted Amount:</h3>
        <p>{convertedAmount}</p>
      </div>
    </div>
  );
};

export default CurrencyConverter;
```

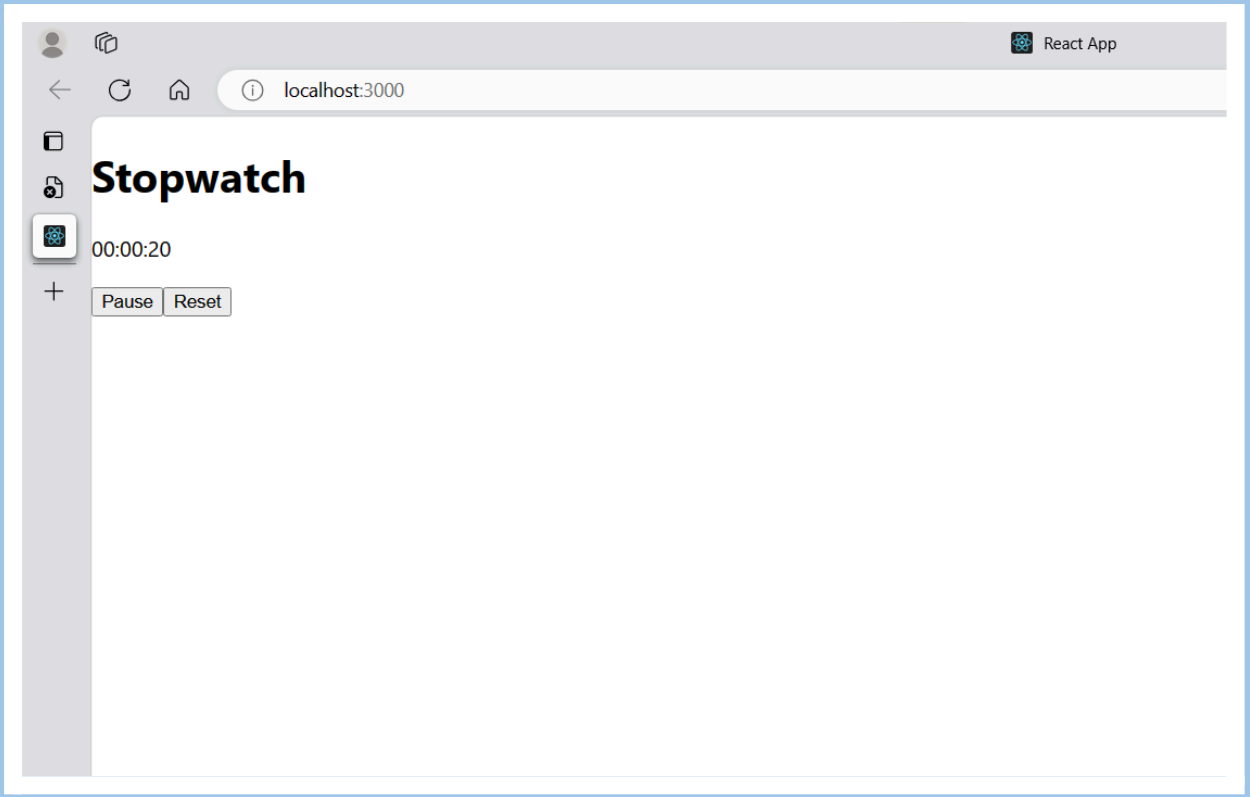


T2. Create a stopwatch application through which users can start, pause and reset the timer. Use React state, event handlers and the set. Timeout or setInterval functions to manage the timer's state and actions.

ANSWER:

```
import React, { useState, useEffect } from 'react';

const Stopwatch = () => {
 const [time, setTime] = useState(0);
 const [isRunning, setIsRunning] = useState(false);

 useEffect(() => {
  let intervalId;
  if (isRunning) {
   intervalId = setInterval(() => {
    setTime((prevTime) => prevTime + 1);
   }, 1000);
  } else {
   clearInterval(intervalId);
  }

  return () => clearInterval(intervalId);
 }, [isRunning]);
```

```
 const startStopwatch = () => {
   setIsRunning(true);
 };

 const pauseStopwatch = () => {
   setIsRunning(false);
 };

 const resetStopwatch = () => {
   setIsRunning(false);
   setTime(0);
 };

 const formatTime = (seconds) => {
   const hours = Math.floor(seconds / 3600);
   const minutes = Math.floor((seconds % 3600) / 60);
   const remainingSeconds = seconds % 60;

   return `${hours.toString().padStart(2, '0')}:${minutes
     .toString()
     .padStart(2, '0')}:${remainingSeconds.toString().padStart(2, '0')}`;
 };

 return (
   <div>
     <h1>Stopwatch</h1>
     <div>
       <p>{formatTime(time)}</p>
     </div>
     <div>
       {!isRunning ? (
         <button onClick={startStopwatch}>Start</button>
       ) : (
         <button onClick={pauseStopwatch}>Pause</button>
       )}
       <button onClick={resetStopwatch}>Reset</button>
     </div>
   </div>
 );
};

export default Stopwatch;
```


React App
localhost:3000
Stopwatch
00:00:20
Pause
Reset