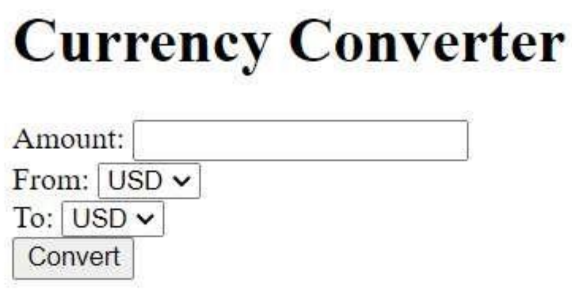
Q1)

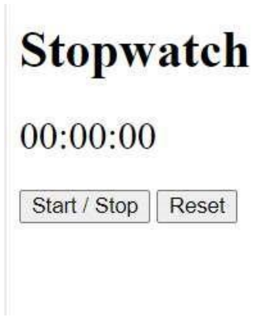
```
import React, { useState } from 'react';

const CurrencyConverter = () => {
  const [amount, setAmount] = useState('');
  const [fromCurrency, setFromCurrency] = useState('USD');
  const [toCurrency, setToCurrency] = useState('INR');
  const exchangeRate = 88.47;


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


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


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


  const convertCurrency = () => {
    const convertedAmount = amount * exchangeRate;
    return convertedAmount.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>
          <option value="EUR">EUR</option>
          {/* Add more currencies as needed */}
        </select>
      </div>
      <div>
        <label htmlFor="toCurrency">To Currency:</label>
        <select id="toCurrency" value={toCurrency} onChange={handleToCurrencyChange}>
          <option value="USD">USD</option>
          <option value="INR">EUR</option>
          {/* Add more currencies as needed */}
        </select>
      </div>
      <div>
        <button onClick={convertCurrency}>Convert</button>
      </div>
      <div>
        {amount && (
          <p>
            {amount} {fromCurrency} is equal to {convertCurrency()} {toCurrency}
          </p>
        )}
      </div>
    </div>
  );
};


export default CurrencyConverter;
```



Q2)
import React, { useState, useRef } from 'react';

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


  const startStopwatch = () => {
    if (!isRunning) {
      setIsRunning(true);
      intervalRef.current = setInterval(() => {
        setTime(prevTime => prevTime + 1);
      }, 1000);
    }
  };


  const pauseStopwatch = () => {
    clearInterval(intervalRef.current);
    setIsRunning(false);
  };


  const resetStopwatch = () => {
    clearInterval(intervalRef.current);
    setTime(0);
    setIsRunning(false);
  };


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


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


  return (
    <div>
```

```
      <h2>Stopwatch</h2>
      <p>{formatTime(time)}</p>
      <div>
        {!isRunning ? (
          <button onClick={startStopwatch}>Start</button>
        ) : (
          <button onClick={pauseStopwatch}>Pause</button>
        )}
        <button onClick={resetStopwatch}>Reset</button>
      </div>
    </div>
  );
};


export default Stopwatch;
```



Q3)

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

```
import firebase from 'firebase/app';
import 'firebase/database';


const firebaseConfig = {
  // Your Firebase configuration
};


firebase.initializeApp(firebaseConfig);
```

```
const MessagingApp = () => {
  const [conversations, setConversations] = useState([]);
  const [selectedConversation, setSelectedConversation] = useState(null);
  const [newMessage, setNewMessage] = useState('');


  useEffect(() => {
    const conversationsRef = firebase.database().ref('conversations');
    conversationsRef.on('value', (snapshot) => {
      const data = snapshot.val();
      if (data) {
        setConversations(Object.values(data));
      }
    });
  }, []);


  const selectConversation = (conversation) => {
    setSelectedConversation(conversation);
  };


  const sendMessage = () => {
    if (newMessage.trim() === '') return;


    const conversationRef =
firebase.database().ref(conversations/${selectedConversation.id}/messages);
    conversationRef.push({
      text: newMessage,
      sender: 'user', // or you can set it to the user's ID if you have user authentication
      timestamp: firebase.database.ServerValue.TIMESTAMP
    });


    setNewMessage('');
  };
  return (
    <div>
      <h2>Conversations</h2>
      <ul>
        {conversations.map(conversation => (
          <li key={conversation.id} onClick={() => selectConversation(conversation)}>
            {conversation.title}
          </li>
        ))}
      </ul>


      {selectedConversation && (
        <div>
          <h3>{selectedConversation.title}</h3>
          <div>
            {selectedConversation.messages.map(message => (
              <div key={message.id}>
                <p>{message.text}</p>
                <small>{message.sender}</small>
              </div>
            ))}
          </div>
          <input type="text" value={newMessage} onChange={(e) =>
setNewMessage(e.target.value)} />
          <button onClick={sendMessage}>Send</button>
        </div>
      )}
    </div>
  );
};


export default MessagingApp;
```