NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY
(An Autonomous College under VTU)
Venkatagiri Kote post, Devanahalli, Bengaluru-562164

Department of Computer Science and Engineering

FULL STACK DEVELOPMENT

LABORATORY MANUAL

21CSI62

Prepared By:
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Department Vision and Mission statements

VISION

Excellence in creating globally competent professionals and leaders in the field of Computer Science & Engineering.

MISSION

M1: Creating Excellence in Computer Science & Engineering education through academic professionalism, teaching, curricula which reflect the changing needs of the society.

M2: Establishing center of excellence by creating knowledge through research and industrial exposure in the area of Computer Science & Engineering.

M3: Developing communication skill, leadership qualities, teamwork & skills for continuing education among the students.

M4: Inculcating ethics, human values and skills for solving societal problems and environmental protection.

M5: Validate engineering knowledge through innovative research projects to enhance their employability and entrepreneurship skills.

FULL STACK DEVELOPMENT LABORATORY

Course code	L:T:P:S	Credits	Exam Marks	Exam Duration	Course Types
21CSI62	3:0:2:0	04	CIE:50	03 Hours	IC

Course Objectives:

The Student will:

- Use HTML, CSS and JavaScript in web page design.
- Access the filters, forms in Java Script.
- Write programs using Hooks, components and Events in React JS.
- Design interactive web pages.
- Understand with the database connectivity and reactive forms using JavaScript.

Programs List

Sl. No.	Programs
1	Write a react Js program to create login form.
2	Write a react JS Program using use State hook.
3	Write a react JS program to demonstrate password strength validator.
4	Write a react JS program to implement word letter counter.
5	Write a react Js Program to style a webpage using CSS.
6	Write a react Js program create a simple greeting website

Course outcomes:

The student will be able to:

CO1: Understand the basic programming principles for the construction of website.

CO2: Apply the Knowledge about the front end and back end Tools for designing the web Applications.

CO3: Analyze code packages based on their documentation.

CO4: Develop a fully functioning website and deploy on a web server.

CO5: Demonstrate the web application employing efficient database access

1) Write a react Js program to create login form.

PROGRAM

App.js

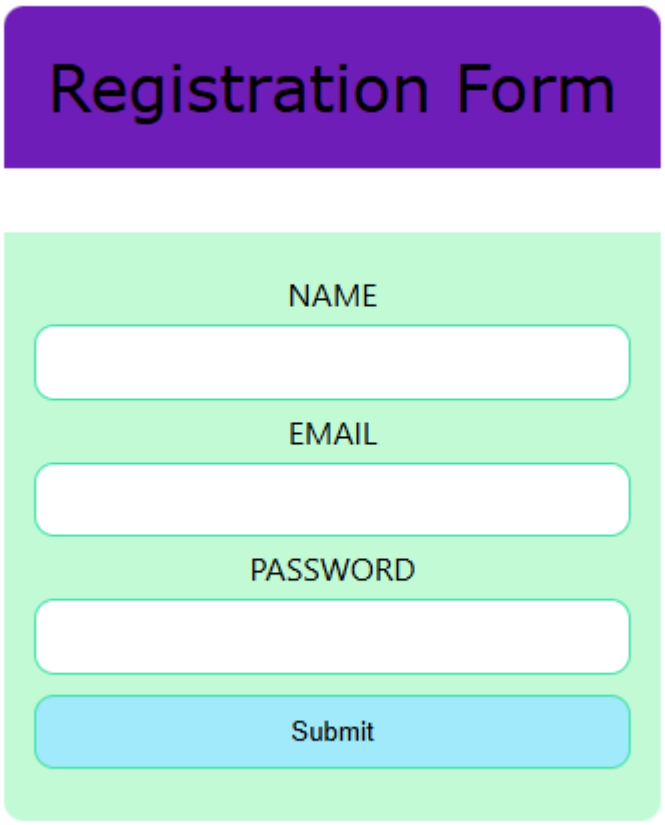
```
// Inside src/App.js

import React from "react";
import "./App.css";

function App() {
    return (
        <>
            <p className="title">Registration Form</p>
            <form className="App">
            <label for="text">NAME</label>
                <input type="text" />
                <label for="email">EMAIL</label>
                <input type="email" />
                <label for="password">PASSWORD</label>
                <input type="password" />
                <input type={"submit"}
                    style={{ backgroundColor: "#a1eafb" }} />
            </form>
        </>
    );
}

export default App;
```

App.css

```
/* Inside src/App.css */

body {
  height: 100vh;
  display: flex;
  justify-content: center;
  align-items: center;
}
.title {
  text-align: center;
  width: 30vw;
```

```
background-color: rgb(110, 29, 185);
  padding: 2vw 1vw;
  border-radius: 10px 10px 0 0;
  font-size: 2rem;
  font-family: Verdana, Geneva, Tahoma, sans-serif;
}

.App {
  text-align: center;
  display: flex;
  flex-direction: column;
  margin: auto;
  width: 30vw;
  padding: 2vw 1vw;
  background-color: rgb(194, 250, 213);
  border-radius: 0 0 10px 10px;
}

input {
  border: 1px solid rgb(66, 226, 170);
  border-radius: 10px;
  padding: 1vw 1vw;
  outline: none;
  margin: 5px;
}
```

OUTPUT:



2) Write a react JS Program using use State hook.

PROGRAM

App.js

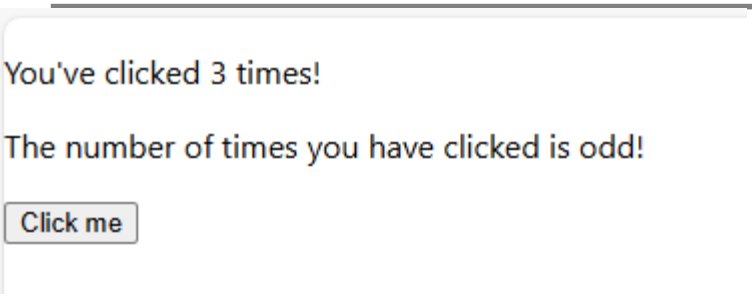
```
import React, { useState } from 'react';
import './App.css'
function App() {
    const [click, setClick] = useState(0);
    return (
        <div>
            <p>You've clicked {click} times!</p>
            <p>The number of times you have clicked
                is {click % 2 === 0 ? 'even!' : 'odd!'}</p>
            <button onClick={() => setClick(click => click + 1)}>
                Click me
            </button>
        </div>
    );
}
export default App;
```

OUTPUT:

You've clicked 2 times!

The number of times you have clicked is even!

Click me


You've clicked 3 times!
The number of times you have clicked is odd!
Click me

3) Write a react JS program to demonstrate password strength validator.

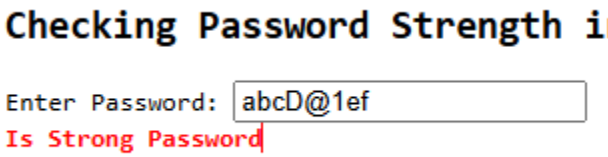
PROGRAM

App.js

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

const App = () => {

    const [errorMessage, setErrorMessage] = useState('')

    const validate = (value) => {

        if (validator.isStrongPassword(value, {
            minLength: 8, minLowercase: 1,
            minUppercase: 1, minNumbers: 1, minSymbols: 1
        })) {
            setErrorMessage('Is Strong Password')
        } else {
            setErrorMessage('Is Not Strong Password')
        }
    }
      return (
        <div style={{
            marginLeft: '200px',
        }}>
            <pre>
                <h2>Checking Password Strength in ReactJS</h2>
                <span>Enter Password: </span><input type="text"
                    onChange={(e) => validate(e.target.value)}></input> <br />
                {errorMessage === '' ? null :
                    <span style={{
                        fontWeight: 'bold',
                        color: 'red',
                    }}>{errorMessage}</span>}
            </pre>
        </div>
    );
}
export default App
```

OUTPUT:


Checking Password Strength in ReactJS
Enter Password: abcdef
Is Not Strong Password


Checking Password Strength in ReactJS
Enter Password: abcD@1ef
Is Strong Password

4) Write a react JS program to implement word letter counter.

PROGRAM

App.js

```
import React from "react";
import WordLetterCounter from "./WordLetterCounter";
import "./App.css";

function App() {
  return (
    <div className="App">
      <h1 id="top">
      FULL STACK DEVELOPMENT
      </h1>
      <h1>
      Words and Letters
      Counter
      </h1>
      <WordLetterCounter />
    </div>
  );
}

export default App;
```

App.css

```
      /* App.css */
.App {
     display: flex;
     flex-direction: column;
     align-items: center;
     background-color: #f0f0f0;
     height: 100vh;
}

#top {
     font-size: 27px;
     margin: 20px 0;
```

```
    color: #2bc00d;
}
h1 {
    font-size: 27px;
    margin: 20px 0;
    color: #4c4e4b;
}
```

WordLetterCounter.js

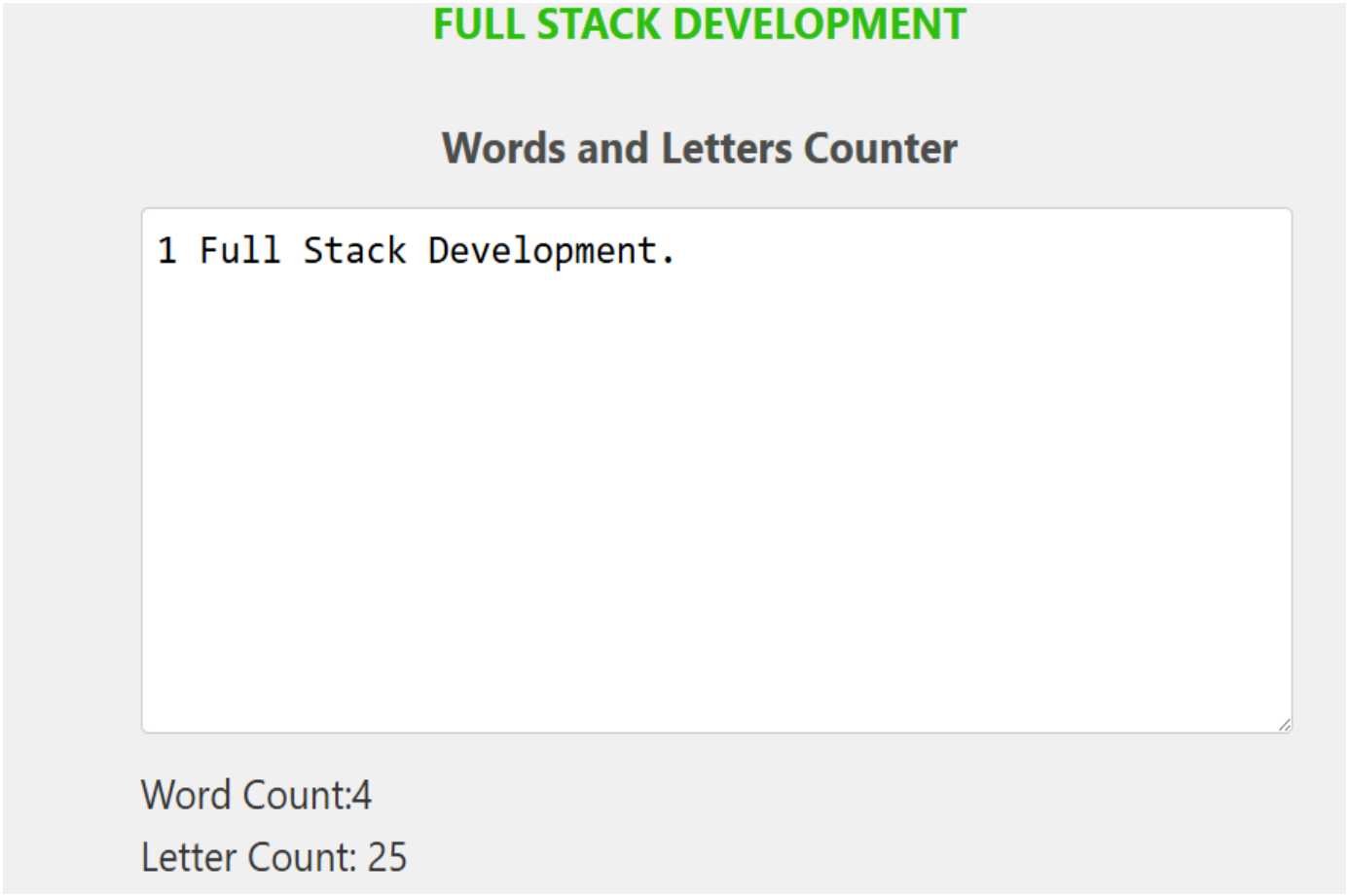
```
import React, { useState } from "react";
import "./WordLetterCounter.css";

function WordLetterCounter() {
    const [text, setText] =
        useState("");
    const wordCount = text
        .split(/\s+/)
        .filter(Boolean).length;
    const letterCount = text.length;

    const handleTextChange = (e) => {
        setText(e.target.value);
    };

    return (
        <div>
            <textarea
                placeholder=
                "Type your text here..."
                onChange={
                    handleTextChange
                }
                value={text}
                rows={5}
                cols={50}
            />
            <p>
                Word Count:
                {wordCount}
            </p>
```

```
            <p>
                Letter Count:{" "}
                {letterCount}
            </p>
        </div>
    );
}

export default WordLetterCounter;
```

WordLetterCounter.css

```
.container {
    display: flex;
    flex-direction: column;
    align-items: center;
    text-align: center;
    font-family: Arial, sans-serif;
    margin: 20px;
}

textarea {
    width: 100%;
    padding: 10px;
    height: 300px;
    margin-bottom: 10px;
    border: 1px solid #ccc;
    border-radius: 5px;
    font-size: 25px;
}

p {
    font-size: 25px;
    margin: 5px 0;
    color: #333;
}
```

OUTPUT:


FULL STACK DEVELOPMENT
Words and Letters Counter
1 Full Stack Development.
Word Count:4
Letter Count: 25

5) Write a react Js Program to style a webpage using CSS

PROGRAM

```
const App = () => {
  return (
    <div
      style={{
        display: "flex",
        alignItems: "center",
        justifyContent: "center",
        height: "100vh",
        backgroundImage:
          "linear-gradient(to right, #427ceb, #1dad6f)",
      }}
    >
      <h1 style={{ color: "white" }}>Welcome to NCET.</h1>
    </div>
  );
};

export default App;
```

OUTPUT:

6) Write a react Js program create a simple greeting website

PROGRAM

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

function App() {
  let currDate = new Date();
  currDate = currDate.getHours();
  let greeting;
  const cssStyle = {};

  let time = new Date().toLocaleTimeString();
  const [currTime, setTime] = useState(time)

  const UpdateTime = () => {
    time = new Date().toLocaleTimeString();
    setTime(time);
  };

  setInterval(UpdateTime,1000);

  if (currDate >= 24 && currDate < 12) {
    greeting = "Good Morning";
    cssStyle.color = "green";
  } else if (currDate >= 12 && currDate < 18) {
    greeting = "Good Afternoon";
    cssStyle.color = "orange";
  } else if (currDate >= 18 && currDate < 20) {
    greeting = "Good Evening";
    cssStyle.color = "#00b894";
  } else if (currDate >= 20 && currDate < 24) {
    greeting = "Good Night";
    cssStyle.color = "Blue";
  }

  return (
    <>
      <div>
        <h1>
          Wishing You a very<span style={cssStyle}> {greeting}
          </span>
        </h1>
```

```
      </div>
    </>
  );
}

export default App;
```

OUTPUT: