

Q-1 Create a sample GEHU website using HTML5 semantic tags.

```
<!DOCTYPE html>
<head>
  <title>Graphic Era Hill University (GEHU)</title>
  <style>
    header, nav, main, section, article, footer {
      padding: 1em;
      margin: 0 auto;
      max-width: 1200px;
    }
    header {
      background: #333;
      color: #fff;
      padding: 1em 0;
      text-align: center;
    }
    nav ul li {
      display: inline;
      margin: 0 10px;
    }
    nav ul li a {
      color: #333;
      text-decoration: none;
    }
    footer {
      background: #333;
      color: #fff;
      text-align: center;
      padding: 1em 0;
    }
  </style>
</head>
<body>
  <header>
    <h1>Graphic Era Hill University (GEHU)</h1>
    <p>Empowering Education, Enriching Lives</p>
  </header>
  <nav>
    <ul>
      <li><a href="#home">Home</a></li>
      <li><a href="#about">About Us</a></li>
      <li><a href="#programs">Programs</a></li>
      <li><a href="#admissions">Admissions</a></li>
      <li><a href="#contact">Contact</a></li>
    </ul>
  </nav>
  <main>
    <section id="home">
      <h2>Welcome to GEHU</h2>
      <p>Graphic Era Hill University is a place where talent meets opportunity.</p>
    </section>
    <section id="about">
```

```
<h2>About Us</h2>
<p>Founded in 2011, GEHU has quickly become a leading institution in the field of higher education.</p>
</section>
<section id="programs">
  <h2>Our Programs</h2>
  <article>
    <h3>Engineering</h3>
    <p>Our engineering programs are designed to equip students with the skills needed to excel in the rapidly
changing technology landscape.</p>
  </article>
  <article>
    <h3>Management</h3>
    <p>The management programs at GEHU aim to develop future leaders with a strong ethical foundation and
global perspective.</p>
  </article>
  <article>
    <h3>Arts & Humanities</h3>
    <p>Explore our diverse range of programs in arts and humanities, fostering creativity and critical thinking.</p>
  </article>
</section>
<section id="admissions">
  <h2>Admissions</h2>
  <p>Join our vibrant community of learners.</p>
</section>
<section id="contact">
  <h2>Contact Us</h2>
  <address>
    Graphic Era Hill University<br>
    Bhimtal Campus, Uttarakhand, India<br>
    Email: <a href="mailto:info@gehu.ac.in">info@gehu.ac.in</a><br>
    Phone: +91-12345-67890
  </address>
</section>
</main>
<footer>
  <p>&copy; 2024 Graphic Era Hill University. All rights reserved.</p>
</footer>
</body>
</html>
```

OUTPUT

Graphic Era Hill University (GEHU)

Empowering Education, Enriching Lives

[Home](#) [About Us](#) [Programs](#) [Admissions](#) [Contact](#)

Welcome to GEHU

Graphic Era Hill University is a place where talent meets opportunity.

About Us

Founded in 2011, GEHU has quickly become a leading institution in the field of higher education.

Our Programs

Q2) Insert audio and video into a webpage keeping in mind multiple formats.

```
<!DOCTYPE html>
<head>
  <title>Explore the World - Travel Website</title>

  <style>
    body {
      font-family: Arial, sans-serif;
    }
    header, footer {
      text-align: center;
      padding: 1em;
    }
  </style>
</head>

<body>
  <header>
    <h1>Explore the World</h1>
    <p>Your Gateway to Amazing Travel Experiences</p>
  </header>

  <nav>
    <ul style="list-style: none; text-align: center; padding: 0;">
      <li style="display: inline; margin: 0 10px;"><a href="#destinations">Destinations</a></li>
      <li style="display: inline; margin: 0 10px;"><a href="#tours">Tours</a></li>
      <li style="display: inline; margin: 0 10px;"><a href="#contact">Contact</a></li>
    </ul>
  </nav>

  <main style="padding: 1em; max-width: 800px; margin: 0 auto;">
    <section id="destinations">
      <h2>Top Destinations</h2>
      <p>Discover the most beautiful places in the world.</p>
      <audio controls preload="auto" loop>
        <source src="audio/travel-music.mp3" type="audio/mpeg">
        <source src="audio/travel-music.ogg" type="audio/ogg">
        <source src="audio/travel-music.wav" type="audio/wav">
        Your browser does not support the audio element.
      </audio>
    </section>

    <section id="tours">
      <h2>Guided Tours</h2>
      <p>Join our guided tours to explore amazing places.</p>
      <video controls width="600" preload="metadata" poster="video/tour-thumbnail.jpg">
        <source src="video/tour-video.mp4" type="video/mp4">
        <source src="video/tour-video.ogg" type="video/ogg">
        <source src="video/tour-video.webm" type="video/webm">
        Your browser does not support the video tag.
      </video>
```

```
</section>
</main>
<footer>
  <p>&copy; 2024 Explore the World. All rights reserved.</p>
</footer>
</body>
</html>
```

OUTPUT

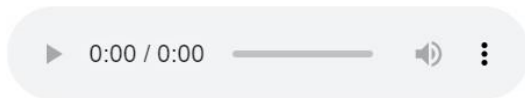
Explore the World

Your Gateway to Amazing Travel Experiences

[Destinations](#) [Tours](#) [Contact](#)

Top Destinations

Discover the most beautiful places in the world.



Guided Tours

Join our guided tours to explore amazing places.

Q3) Demonstrate various types of CSS positioning.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Graphic Era Hill University (GEHU)</title>
  <style>
    body {
      font-family: Arial, sans-serif; margin: 0; padding: 0;
    }
    header, nav, main, section, article, footer {
      padding: 1em; margin: 0 auto; max-width: 1200px;
    }
    header {
      background: #333; color: #fff; padding: 1em 0; text-align: center;
    }
    footer {
      background: #333;
      color: #fff;
      text-align: center;
      padding: 1em 0;
    }
    .box {
      padding: 20px;
      margin: 10px 0;
      border: 1px solid #ccc;
    }
    .static {
      background-color: lightblue;
      position: static; /* Default positioning */
    }
    .relative {
      background-color: lightgreen;
      position: relative;
      top: 10px;
      left: 20px;
    }
    .absolute-container {
      position: relative
      height: 200px;
      border: 1px solid #000;
      margin: 10px 0;
    }
    .absolute {
      background-color: lightcoral;
```

```

    position: absolute;
    top: 20px;
    left: 20px;
    width: 200px;
}
.fixed {
    background-color: lightgoldenrodyellow;
    position: fixed;
    top: 10px;
    right: 10px;
    width: 200px;
}
.sticky {
    background-color: lightpink;
    position: -webkit-sticky; /* For Safari */
    position: sticky;
    top: 0;
    padding: 50px;
    border: 2px solid #666;
}
</style>
</head>
<body>
    <header>
        <h1>Graphic Era Hill University (GEHU)</h1>
        <p>Empowering Education, Enriching Lives</p>
    </header>
    <nav>
        <ul>
            <li><a href="#home">Home</a></li>
            <li><a href="#about">About Us</a></li>
            <li><a href="#programs">Programs</a></li>
            <li><a href="#admissions">Admissions</a></li>
            <li><a href="#contact">Contact</a></li>
        </ul>
    </nav>
    <main>
        <section id="home" class="box static">
            <h2>Welcome to GEHU</h2>
            <p>Graphic Era Hill University is a place where talent meets opportunity.</p>
        </section>
        <section id="about" class="box relative">
            <h2>About Us</h2>
            <p>Founded in 2011, GEHU has quickly become a leading institution in the field of higher education.</p>
        </section>
        <section id="programs" class="box">
            <h2>Our Programs</h2>
            <div class="absolute-container">
                <article class="absolute">
                    <h3>Engineering</h3>
                    <p>Our engineering programs are designed to equip students with the skills needed to excel in the rapidly
changing technology landscape.</p>
                </article>
            </div>
        </section>
    </main>

```



```
</div>
<article class="box">
  <h3>Management</h3>
  <p>The management programs at GEHU aim to develop future leaders with a strong ethical foundation and
global perspective.</p>
</article>
<article class="box">
  <h3>Arts & Humanities</h3>
  <p>Explore our diverse range of programs in arts and humanities, fostering creativity and critical thinking.</p>
</article>
</section>
<section id="admissions" class="box fixed">
  <h2>Admissions</h2>
  <p>Join our vibrant community of learners.</p>
</section>
<section id="contact" class="box sticky">
  <h2>Contact Us</h2>
  <address>
    Graphic Era Hill University<br>
    Bhimtal Campus, Uttarakhand, India<br>
    Email: <a href="mailto:info@gehu.ac.in">info@gehu.ac.in</a><br>
    Phone: +91-12345-67890
  </address>
</section>
</main>
<footer>
  <p>&copy; 2024 Graphic Era Hill University. All rights reserved.</p>
</footer>
</body>
</html>
```

OUTPUT

Engineering

Our engineering programs are designed to equip students with the skills needed to excel in the rapidly changing technology landscape.

- [Admissions](#)
- [Contact](#)

Graphic Era Hill University (GEHU)

Empowering Education, Enriching Lives

Admissions

Join our vibrant community of learners.

Welcome to GEHU

Graphic Era Hill University is a place where talent meets opportunity.

About Us

Founded in 2011, GEHU has quickly become a leading institution in the field of higher education.

Q4) Insert a new element, modify an existing element, and delete an element using Javascript DOM.

```
<!DOCTYPE html>
<head>
  <title>DOM Manipulation Example</title>
</head>
<body>
  <h1 id="heading">Original Heading</h1>

  <button onclick="insertNewElement()">Insert New Element</button>
  <button onclick="modifyElement()">Modify Element</button>
  <button onclick="deleteElement()">Delete Element</button>

  <script>
    function insertNewElement() {
      var paragraph = document.createElement("p");
      paragraph.textContent = "This is a new paragraph.";
      document.body.appendChild(paragraph);
    }

    function modifyElement() {
      var heading = document.getElementById("heading");
      heading.textContent = "Modified Heading";
      heading.style.color = "blue";
    }

    function deleteElement() {
      var paragraph = document.querySelector("p");
      if (paragraph) {
        paragraph.parentNode.removeChild(paragraph);
      }
    }
  </script>
</body>
</html>
```

OUTPUT

Original Heading

Insert New Element

Modify Element

Delete Element

Original Heading

Insert New Element

Modify Element

Delete Element

This is a new paragraph.

Modified Heading

Insert New Element

Modify Element

Delete Element

This is a new paragraph.

Q5) Demonstrate an Ajax call using JQuery.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Ajax Call using jQuery</title>
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
</head>
<body>
  <h1>Ajax Call using jQuery</h1>
  <button id="fetchData">Fetch Data</button>
  <div id="result"></div>

  <script>
    $(document).ready(function() {
      $('#fetchData').click(function() {
        $.ajax({
          url: 'https://jsonplaceholder.typicode.com/posts/1',
          type: 'GET',
          dataType: 'json',
          success: function(data) {\
            var resultHtml = `
              <h2>${data.title}</h2>
              <p>${data.body}</p>
            `;
            $('#result').html(resultHtml);
          },
          error: function(xhr, status, error) {
            // Handle any errors here
            $('#result').html('<p>An error occurred: ' + error + '</p>');
          }
        });
      });
    });
  </script>
</body>
</html>
```

OUTPUT

Ajax Call using jQuery

Fetch Data

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Q6) Demonstrate 1d and 2d array in PHP. Also, demonstrate any 5 string functions in PHP.

```
<?php
// 1D Array
$fruits = array("Apple", "Banana", "Orange", "Mango", "Grapes");
echo "<h2>1D Array:</h2>";
echo "Fruits: ";
foreach ($fruits as $fruit) {
    echo "$fruit, ";
}
// 2D Array
$students = array(
    array("John", 25, "Male"),
    array("Alice", 22, "Female"),
    array("Bob", 24, "Male")
);

echo "<h2>2D Array:</h2>";
foreach ($students as $student) {
    foreach ($student as $value) {
        echo "$value";
    }
}

$str = "Hello, World!";
echo "<h4>String = $str</h4>";
echo "<h2>String Functions:</h2>";

echo "1. Length of '$str' is: " . strlen($str) . "<br>";

echo "2. Uppercase: " . strtoupper($str) . "<br>";

echo "3. Lowercase: " . strtolower($str) . "<br>";

echo "4. Substring: " . substr($str, 7, 5) . "<br>";

echo "5. Position of 'World' in '$str' is: " . strpos($str, "World") . "<br>";
?>
```

OUTPUT



1D Array:

Fruits: AppleBananaOrangeMangoGrapes

- 1 Devansh dsuza
- 2 Salman dsuza
- 3 Udit dsuza
- 4 Zoya dsuza
- 5 Ananya dsuza

String = Hello, World!

String Functions:

1. Length of 'Hello, World!' is: 13
2. Uppercase: HELLO, WORLD!
3. Lowercase: hello, world!
4. Substring: World
5. Position of 'World' in 'Hello, World!' is: 7



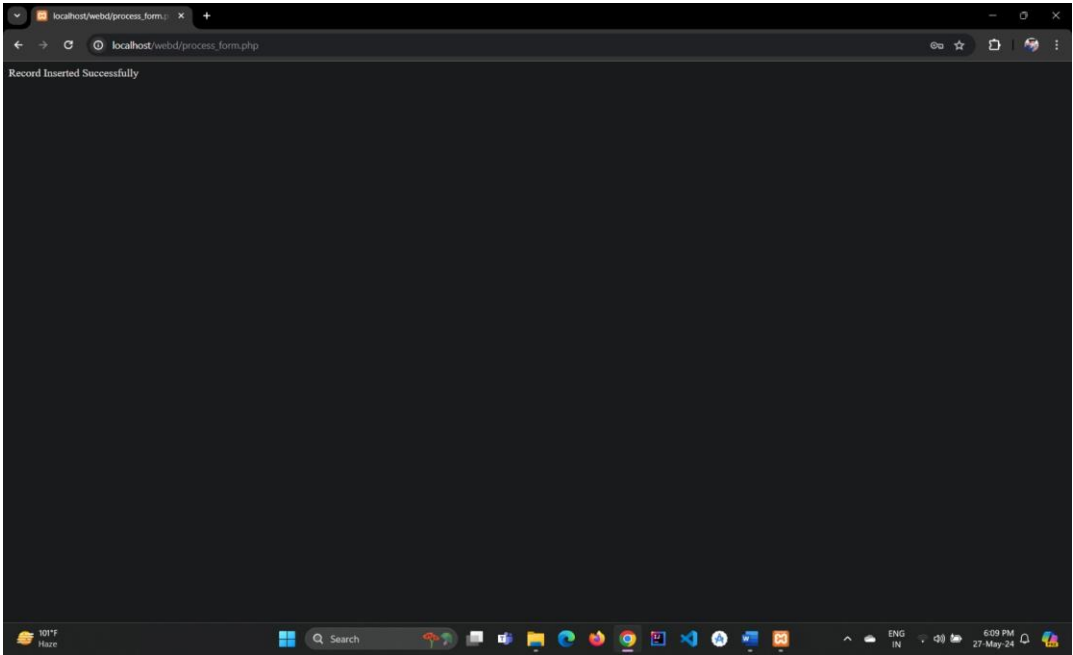
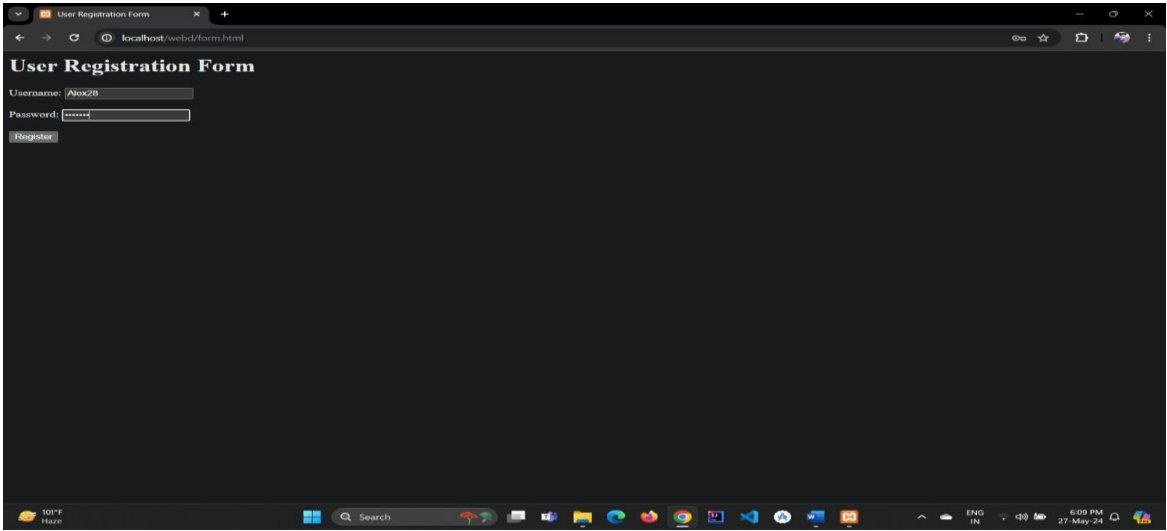
Q7) Create a form accepting username and password. Using PHP, connect to a database, and insert the data recieved from the user.

//form.html

```
<html>
<head>
    <title>User Registration Form</title>
</head>
<body>
    <h1>User Registration Form</h1>
    <form action="process_form.php" method="POST">
        <label for="username">Username:</label>
        <input type="text" id="username" name="username" required><br><br>
        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required><br><br>
        <button type="submit">Register</button>
    </form>
</body>
</html>
```

//process_form.php

```
<?php
if($_SERVER["REQUEST_METHOD"]=="POST"){
    $username=$_POST["username"];
    $password=$_POST["password"];
    $conn=mysqli_connect("localhost","root","");
    if ($conn->connect_error) {
        die("Connection failed: " . $conn->connect_error);
    }
    $q="CREATE DATABASE IF NOT EXISTS DATA";
    mysqli_query($conn,$q);
    $q1="USE DATA";
    mysqli_query($conn,$q1);
    $q2="CREATE TABLE IF NOT EXISTS USER(
        id INT AUTO_INCREMENT PRIMARY KEY, username VARCHAR(255) NOT NULL,
        password VARCHAR(255) NOT NULL)";
    mysqli_query($conn,$q2);
    $sql="INSERT INTO USER VALUES(NULL, '$username','$password')";
    if (mysqli_query($conn, $sql)) {
        echo "Record Inserted Successfully";
    } else {
        echo "Error: " . $sql . "<br>" . mysqli_error($conn);
    }
    $conn->close();
}
```



Q8) Create a sample React application using functional components.

//App.js

```
import './App.css';

import React from 'react';
import Header from './comp/Header';
import Counter from './comp/Counter';

function App() {
  return (
    <div>
      <Header/>
      <Counter/>
    </div>
  );
}
export default App;
```

//Header

```
function Header(){
  return (<h1>Simple Counter App</h1>);
}
export default Header;
```

//Counter

```
import React, { useState } from 'react';
const Counter = () => {
  const [count, setCount] = useState(0);

  function increment(){
    setCount(count + 1);
  };
  return (
    <div>
      <h4>Counter: {count}</h4>
      <button onClick={increment}>Increment</button>
    </div>
  );
};

export default Counter;
```

OUTPUT

Simple counter app

Counter: 3

Increment

Q9) Using React Router, demonstrate navigation among various pages of a React application.

//App.js

```
import './App.css';

import { BrowserRouter, Route, Link, Routes } from 'react-router-dom';
import React from 'react';
import Home from './comp/Home';
import About from './comp/About';
import Contact from './comp/Contact';

function App() {
  return (
    <BrowserRouter>
      <div className="App">
        <ul>
          <li><Link to="/">Home</Link></li>
          <li><Link to="/about">About</Link></li>
          <li><Link to="/contact">Contact</Link></li>
        </ul>
        <Routes>
          <Route path="/" element={ <Home /> } />
          <Route path="/about" element={ <About /> } />
          <Route path="/contact" element={ <Contact /> } />
        </Routes>
      </div>
    </BrowserRouter>
  );
}

export default App;
```

// Home.jsx

```
import React from 'react';

function Home(){
  return (
    <div>
      <h1>Home Page</h1>
      <p>Welcome to the home page!</p>
    </div>
  );
}
```

```
        </div>
    );
}

export default Home;
//About.jsx

import React from "react";

function About(){
    return (
        <div>
            <h1>About Page</h1>
            <p>This is the about page.</p>
        </div>
    );
}

export default About;

//Contact.jsx

import React from "react";

function Contact(){
    return (
        <div>
            <h1>Contact Page</h1>
            <p>This is the contact page.</p>
        </div>
    );
}

export default Contact;
```

OUTPUT

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[Log in](#)

[Get started](#)



Download Now Lorem Ipsum

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[Log in](#)

[Get started](#)



React development is carried out by passionate developers

Lorem ipsum dolor, sit amet consectetur adipisicing elit. Eum omnis voluptatem accusantium nemo perspiciatis delectus atque autem! Voluptatum tenetur beatae unde aperiam, repellat expedita consequatur! Officiis id consequatur atque doloremque!

Nobis minus voluptatibus pariatur dignissimos libero quaerat iure expedita at? Asperiores nemo possimus nesciunt dicta veniam aspernatur quam mollitia.

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Get in touch:

Fill in the form to start a conversation



Acme Inc, Street,
State, Postal Code



+44 1234567890



info@acme.org

Full Name

Email

Telephone Number

[Submit](#)

Q10) Implement form validation in React.

//App.js

```
import './App.css';

import React from 'react';
import FormValidation from './comp/FormValidation';

function App() {
  return (
    <FormValidation/>
  );
}

export default App;
```

// FormValidation.jsx

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

function FormValidation() {
  const [formData, setFormData] = useState({
    username: '',
    password: ''
  });
  const [errors, setErrors] = useState({
    username: '',
    password: ''
  });
  const [isSubmitted, setIsSubmitted] = useState(false);

  function handleChange(e) {
    const { name, value } = e.target;
    setFormData({
      ...formData,
      [name]: value
    });
  }

  function handleSubmit(e) {
    e.preventDefault();
    let errors = {};
    if (!formData.username.trim()) {
      errors.username = 'Username is required';
    }
    if (!formData.password.trim()) {

```



```

        errors.password = 'Password is required';
    }
    setErrors(errors);
    if (Object.keys(errors).length === 0) {
        setIsSubmitted(true);
        console.log('Form submitted:', formData);
    }
}

return (
    <div>
        <h2>User Registration</h2>
        {isSubmitted ? (
            <div>
                <p>Form successfully submitted!</p>
            </div>
        ) : (
            <form onSubmit={handleSubmit}>
                <div>
                    <label htmlFor="username">Username:</label>
                    <input type="text" id="username" name="username"
value={formData.username}
                        onChange={handleChange}
                    />
                    {errors.username && <span style={{ color: 'red'
}}>{errors.username}</span>}
                </div>
                <div>
                    <label htmlFor="password">Password:</label>
                    <input type="password" id="password" name="password"
value={formData.password}
                        onChange={handleChange}
                    />
                    {errors.password && <span style={{ color: 'red'
}}>{errors.password}</span>}
                </div>
                <button type="submit">Submit</button>
            </form>
        )}
    </div>
);
}

export default FormValidation;

```

OUTPUT

User Registration

Username:

Password:

Submit

User Registration

Form successfully submitted!

Q11) Use axios library to fetch data from a URL.

//App.js

```
import './App.css';
import React, { useState } from 'react';
import axios from 'axios';
function App() {
  const [data, setData] = useState(null);
  const [error, setError] = useState(null);

  const fetchData = () => {
    axios.get('https://jsonplaceholder.typicode.com/posts/1')
      .then(response => {
        setData(response.data);
        setError(null); // Clear any previous errors
      })
      .catch(error => {
        setError(error.message);
        setData(null); // Clear any previous data
      });
  };

  return (
    <div className="App">
      <h1>Axios Call in React</h1>
      <button onClick={fetchData}>Fetch Data</button>
      <div id="result">
        {error && <p>An error occurred: {error}</p>}
        {data && (
          <div>
            <h2>{data.title}</h2>
            <p>{data.body}</p>
          </div>
        )}
      </div>
    </div>
  );
}

export default App;
```

OUTPUT

Axios Call in React

Fetch Data

Axios Call in React

Fetch Data

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