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Prodi : S1 Teknologi Informasi

A. Latihan Bootstrap

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Uji Coba Latihan Bootstrap Bab IV</title>
    <link
        href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha1/dist/css/bootstrap.min.css"
        rel="stylesheet">
    <style>
        /* Gaya tambahan untuk visualisasi */
        .header-section { margin-top: 30px; margin-bottom: 20px; border-bottom: 2px solid #eee; padding-bottom: 10px; }
    </style>
</head>
<body>

    <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
        <div class="container-fluid">
            <a class="navbar-brand" href="#">Rekayasa Web</a>
            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
                <span class="navbar-toggler-icon"></span>
            </button>
            <div class="collapse navbar-collapse" id="navbarNav">
                <ul class="navbar-nav">
                    <li class="nav-item"><a class="nav-link active" href="#">Home</a></li>
                    <li class="nav-item"><a class="nav-link" href="#">About</a></li>
                    <li class="nav-item"><a class="nav-link" href="#">Services</a></li>
                    <li class="nav-item"><a class="nav-link" href="#">Contact</a></li>
                </ul>
            </div>
        </div>
    </nav>

```

```
</div>
</div>
</nav>

<div class="container">

    <h1 class="header-section">1. Hello, World! (Bootstrap Sederhana)</h1>
    <p class="lead">Halaman ini dimuat dengan styling dari Bootstrap.</p>

    <h2 class="header-section">3. Grid Layout (3 Kolom Responsif)</h2>
    <div class="row">
        <div class="col-md-4 col-sm-12 bg-primary text-white p-3 border">
            Kolom 1: col-md-4
        </div>
        <div class="col-md-4 col-sm-12 bg-secondary text-white p-3 border">
            Kolom 2: col-md-4
        </div>
        <div class="col-md-4 col-sm-12 bg-success text-white p-3 border">
            Kolom 3: col-md-4
        </div>
    </div>

    <h2 class="header-section">4. Card Sederhana</h2>
    <div class="card" style="width: 18rem;">
        
        <div class="card-body">
            <h5 class="card-title">Judul Card</h5>
            <p class="card-text">Ini adalah contoh card Bootstrap. Komponen ini bagus untuk menampilkan konten dengan rapi.</p>
            <a href="#" class="btn btn-primary">Klik di sini</a>
        </div>
    </div>

    <h2 class="header-section">5. Form Sederhana</h2>
    <form style="max-width: 400px; margin-bottom: 40px;">
        <div class="mb-3">
            <label for="email" class="form-label">Alamat Email</label>
```

```
<input type="email" class="form-control" id="email"
placeholder="name@example.com">
</div>
<div class="mb-3">
    <label for="password" class="form-label">Kata Sandi</label>
    <input type="password" class="form-control" id="password">
</div>
<button type="submit" class="btn btn-success">Kirim</button>
</form>

<h2 class="header-section">6. Layout dengan Modal</h2>
<button type="button" class="btn btn-danger" data-bs-toggle="modal" data-bs-target="#exampleModal">
    Buka Modal
</button>

</div> <div class="modal fade" id="exampleModal" tabindex="-1" aria-labelledby="exampleModalLabel" aria-hidden="true">
    <div class="modal-dialog">
        <div class="modal-content">
            <div class="modal-header">
                <h5 class="modal-title" id="exampleModalLabel">Judul Modal</h5>
                <button type="button" class="btn-close" data-bs-dismiss="modal" aria-label="Close"></button>
            </div>
            <div class="modal-body">
                Ini adalah contoh modal menggunakan Bootstrap.
            </div>
            <div class="modal-footer">
                <button type="button" class="btn btn-secondary" data-bs-dismiss="modal">Tutup</button>
                <button type="button" class="btn btn-primary">Simpan Perubahan</button>
            </div>
        </div>
    </div>
</div>
</div>
```

```
<script  
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha1/dist/js/bootstrap.bundle.min  
.js"></script>  
  
</body>  
</html>
```

B. LATIHAN JAVASCRIPT

```
<!DOCTYPE html>  
<html lang="en">  
<head>  
    <meta charset="UTF-8">  
    <meta name="viewport" content="width=device-width, initial-scale=1.0">  
    <title>Uji Coba Latihan JavaScript Bab IV</title>  
    <script src="https://code.jquery.com/jquery-3.6.0.min.js"></script>  
    <style>  
        .result-section { border: 1px solid #ccc; padding: 15px; margin-bottom: 20px; }  
        .header-section { margin-top: 30px; margin-bottom: 20px; border-bottom: 2px solid  
#eee; padding-bottom: 10px; }  
    </style>  
</head>  
<body>  
  
<div style="max-width: 800px; margin: 0 auto; padding: 20px;">  
    <h1>Uji Coba Latihan jQuery & JavaScript Lanjutan</h1>  
  
    <h2 class="header-section">1. Show/Hide Elemen (jQuery)</h2>  
    <div class="result-section">  
        <p id="myText">Ini adalah teks yang akan disembunyikan dan ditampilkan.</p>  
        <button id="toggleButton">Sembunyikan/Tampilkan Teks</button>  
    </div>  
  
    <h2 class="header-section">2. Validasi Form (jQuery)</h2>  
    <div class="result-section">  
        <form id="myForm">  
            <label for="name">Nama:</label>  
            <input type="text" id="name" name="name">  
            <button type="submit">Submit</button>  
    </div>
```

```

        </form>
        <p id="error" style="color:red; display:none; margin-top: 10px;">Nama tidak
boleh kosong!</p>
    </div>

        <h2 class="header-section">3, 4, 5, 6, 7, 8, 9 (Lihat Console Browser)</h2>
        <p>Hasil dari latihan **Async/Await**, **Closures**, **Promises** , **HOF**,
**OOP**, **Currying** , dan **Destructuring** akan ditampilkan di **Console**  

browser Anda.</p>
        <button onclick="runJavascriptExercises()">Jalankan Latihan JS Lanjutan (Ke  

Console)</button>
        <div id="oop-output" style="margin-top: 20px; font-family: monospace;"></div>

    </div>

<script>
// =====
// LATIHAN 1: Menampilkan dan Menyembunyikan Elemen (jQuery)
// =====
$(document).ready(function(){
    $('#toggleButton').click(function(){
        // Menggunakan metode toggle() jQuery
        $('#myText').toggle();
    });
});

// =====
// LATIHAN 2: Validasi Form dengan jQuery
// =====
$(document).ready(function(){
    $('#myForm').submit(function(event){
        event.preventDefault(); // Mencegah submit default
        var name = $('#name').val();

        if(name === ""){
            $('#error').show();
            alert('Nama tidak boleh kosong!');
        } else {

```

```
$('#error').hide();
alert('Form berhasil disubmit! Nama: ' + name);
}

});

});

// =====
// FUNGSI UNTUK MENJALANKAN SEMUA LATIHAN JS LANJUTAN (3-9)
// =====
function runJavascriptExercises() {

    console.group("Latihan JavaScript Lanjutan (Bab IV)");

    // -----
    // LATIHAN 3: Asynchronous JavaScript dengan Async/Await
    // -----
    console.groupCollapsed("3. Async/Await (Fetch Users)");
    async function fetchUsers() {
        try {
            console.log("Mulai fetch data dari JSONPlaceholder...");
            let response = await fetch('https://jsonplaceholder.typicode.com/users');
            let users = await response.json();

            console.log('Data Mentah Pengguna:', users);

            console.log('--- Detail Pengguna ---');
            users.forEach(user => {
                console.log(`Name: ${user.name}, Email: ${user.email}`);
            });
        } catch (error) {
            console.error('Error fetching users:', error);
        }
    }
    fetchUsers();
    console.groupEnd();

    // -----
}
```

```

// LATIHAN 4: Closures
// -----
console.groupCollapsed("4. Closures (Counter)");
function counter() {
    let count = 0; // Variabel ini "ter tutup" (closed over)
    return function() {
        count++;
        console.log(`Count: ${count}`);
    };
}
const myCounter = counter();
console.log("Panggilan 1:"); myCounter();
console.log("Panggilan 2:"); myCounter();
console.log("Panggilan 3:"); myCounter();
console.groupEnd();

// -----
// LATIHAN 5: Promises
// -----
console.groupCollapsed("5. Promises");
let processData = new Promise((resolve, reject) => {
    let success = true; // Ubah ke false untuk simulasi gagal
    if(success) {
        resolve('Resolve: Data processed successfully');
    } else {
        reject('Reject: Error processing data');
    }
});

processData
    .then(result => console.log('Promise Result:', result))
    .catch(error => console.error('Promise Error:', error));
console.groupEnd();

// -----
// LATIHAN 6: Higher-Order Functions (map, filter, reduce)

```

```

// -----
console.groupCollapsed("6. Higher-Order Functions");
const numbers = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10];
console.log('Array Awal:', numbers);

const doubled = numbers.map(num => num * 2);
console.log('map (Doubled):', doubled);

const evens = numbers.filter(num => num % 2 === 0);
console.log('filter (Evens):', evens);

const sum = numbers.reduce((total, num) => total + num, 0);
console.log('reduce (Sum):', sum);
console.groupEnd();

// -----
// LATIHAN 7: Object-Oriented Programming (OOP)
// -----
console.groupCollapsed("7. OOP dengan Class (Inheritance)");

class Person {
    constructor(name, age) {
        this.name = name;
        this.age = age;
    }
    greet() {
        console.log(`Hello, my name is ${this.name} and I am ${this.age} years old.`);
    }
}

class Mahasiswa extends Person {
    constructor(name, age, major) {
        super(name, age);
        this.major = major;
    }
    introduce() {
        console.log(`Hi, I'm ${this.name} and I study ${this.major}.`);
    }
}

```

```
        }
    }

const mhs = new Mahasiswa('Fulan', 22, 'Teknik Informatika');
console.log('Objek Mahasiswa:', mhs);
mhs.greet();
mhs.introduce();
console.groupEnd();

// -----
// LATIHAN 8: Currying
// -----
console.groupCollapsed("8. Currying");
function multiply(a) {
    return function(b) {
        return a * b;
    };
}

const double = multiply(2); // Fungsi double yang nilainya selalu dikali 2
console.log('double(5) [2 * 5]:', double(5));

const triple = multiply(3);
console.log('triple(4) [3 * 4]:', triple(4));
console.groupEnd();

// -----
// LATIHAN 9: Destructuring
// -----
console.groupCollapsed("9. Destructuring");

// Array destructuring
const arr = ['Apel', 'Jeruk', 'Mangga'];
const [buah1, buah2, buah3] = arr;
console.log('Array Destructuring:', buah1, buah2, buah3);

// Object destructuring
```

```
const person = {  
    name: 'Budi',  
    age: 25,  
    city: 'Jakarta'  
};  
  
const { name, age, city } = person;  
console.log('Object Destructuring:', name, age, city);  
console.groupEnd();  
  
    console.groupEnd(); // Tutup group utama  
}  
</script>  
</body>  
</html>
```