**how to form Basic Calculators (e.g., simple arithmetic, percentage calculator, loan calculator) using java script coding**

Creating basic calculators in JavaScript is a great way to practice both JavaScript and HTML skills. Below, I'll walk you through creating three different types of calculators:

1. **Simple Arithmetic Calculator (Addition, Subtraction, Multiplication, Division)**
2. **Percentage Calculator**
3. **Loan Calculator**

**1. Simple Arithmetic Calculator**

This calculator performs basic arithmetic operations such as addition, subtraction, multiplication, and division.

**HTML:**

html

Copy code

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Simple Calculator</title>

<style>

input, button {

padding: 10px;

margin: 5px;

font-size: 16px;

}

#result {

margin-top: 10px;

font-size: 20px;

}

</style>

</head>

<body>

<h2>Simple Arithmetic Calculator</h2>

<input type="number" id="num1" placeholder="Enter first number">

<input type="number" id="num2" placeholder="Enter second number">

<br><br>

<button onclick="calculate('add')">Add</button>

<button onclick="calculate('subtract')">Subtract</button>

<button onclick="calculate('multiply')">Multiply</button>

<button onclick="calculate('divide')">Divide</button>

<p id="result"></p>

<script src="calculator.js"></script>

</body>

</html>

**JavaScript (calculator.js):**

javascript

Copy code

function calculate(operation) {

const num1 = parseFloat(document.getElementById('num1').value);

const num2 = parseFloat(document.getElementById('num2').value);

let result;

if (isNaN(num1) || isNaN(num2)) {

result = 'Please enter valid numbers.';

} else {

switch (operation) {

case 'add':

result = num1 + num2;

break;

case 'subtract':

result = num1 - num2;

break;

case 'multiply':

result = num1 \* num2;

break;

case 'divide':

if (num2 === 0) {

result = 'Cannot divide by zero.';

} else {

result = num1 / num2;

}

break;

default:

result = 'Invalid operation';

}

}

document.getElementById('result').textContent = `Result: ${result}`;

}

**2. Percentage Calculator**

This calculator can calculate the percentage of a given number.

**HTML:**

html

Copy code

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Percentage Calculator</title>

<style>

input, button {

padding: 10px;

margin: 5px;

font-size: 16px;

}

#result {

margin-top: 10px;

font-size: 20px;

}

</style>

</head>

<body>

<h2>Percentage Calculator</h2>

<input type="number" id="number" placeholder="Enter number">

<input type="number" id="percentage" placeholder="Enter percentage">

<br><br>

<button onclick="calculatePercentage()">Calculate Percentage</button>

<p id="result"></p>

<script src="percentageCalculator.js"></script>

</body>

</html>

**JavaScript (percentageCalculator.js):**

javascript

Copy code

function calculatePercentage() {

const number = parseFloat(document.getElementById('number').value);

const percentage = parseFloat(document.getElementById('percentage').value);

let result;

if (isNaN(number) || isNaN(percentage)) {

result = 'Please enter valid numbers.';

} else {

result = (number \* percentage) / 100;

}

document.getElementById('result').textContent = `Result: ${result}`;

}

**3. Loan Calculator**

A basic loan calculator that computes the monthly payment based on loan amount, interest rate, and loan term.

**HTML:**

html

Copy code

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Loan Calculator</title>

<style>

input, button {

padding: 10px;

margin: 5px;

font-size: 16px;

}

#result {

margin-top: 10px;

font-size: 20px;

}

</style>

</head>

<body>

<h2>Loan Calculator</h2>

<label for="loanAmount">Loan Amount:</label>

<input type="number" id="loanAmount" placeholder="Loan amount">

<br><br>

<label for="interestRate">Interest Rate (Annual):</label>

<input type="number" id="interestRate" placeholder="Interest rate">

<br><br>

<label for="loanTerm">Loan Term (Years):</label>

<input type="number" id="loanTerm" placeholder="Loan term in years">

<br><br>

<button onclick="calculateLoan()">Calculate Monthly Payment</button>

<p id="result"></p>

<script src="loanCalculator.js"></script>

</body>

</html>

**JavaScript (loanCalculator.js):**

javascript

Copy code

function calculateLoan() {

const loanAmount = parseFloat(document.getElementById('loanAmount').value);

const interestRate = parseFloat(document.getElementById('interestRate').value);

const loanTerm = parseInt(document.getElementById('loanTerm').value);

let result;

if (isNaN(loanAmount) || isNaN(interestRate) || isNaN(loanTerm)) {

result = 'Please enter valid values for loan amount, interest rate, and loan term.';

} else {

// Monthly interest rate

const monthlyInterestRate = (interestRate / 100) / 12;

// Number of payments (months)

const numberOfPayments = loanTerm \* 12;

// Loan payment formula

const monthlyPayment = (loanAmount \* monthlyInterestRate) / (1 - Math.pow(1 + monthlyInterestRate, -numberOfPayments));

result = `Your monthly payment is: $${monthlyPayment.toFixed(2)}`;

}

document.getElementById('result').textContent = result;

}

**Explanation:**

* **Simple Arithmetic Calculator**: Takes two numbers as input and performs basic operations like addition, subtraction, multiplication, and division.
* **Percentage Calculator**: Calculates the percentage of a number (e.g., 20% of 50).
* **Loan Calculator**: Calculates the monthly payment for a loan based on the loan amount, interest rate, and term (in years). It uses the loan payment formula for a fixed-rate loan.

**How It Works:**

1. **HTML** provides the structure and form elements.
2. **JavaScript** handles the calculation logic and interacts with the DOM to display the result.

You can copy and paste these snippets into HTML files and test them in a web browser. They provide basic functionality, and you can expand them by adding more features such as error handling, input validation, or UI enhancements.

Top of Form



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ChatGPT can make mistakes. Check important info.

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