

Capstone Project Angular

Angular Calculator - MyAppCalc

Project Integration: Must Implement the concepts like AppComponent, HTML, CSS with Bootstrap, Template Driven Form, Two Way Data Binding, Component Properties and Control Statement to develop the app.

Components Required: AppComponent.

Project Layout: Create a TDF which should contain 1 main heading, 1 input field and a table with several number and operand buttons in AppComponent with some custom CSS and bootstrap classes applied.

GITHUB: https://github.com/xrahulcrx/Angular_Project_Submission_Rahul

Project Overview

The Angular Calculator is a single-page application created using Angular CLI with routing enabled from the start. The calculator is rendered via Angular Router, showcasing proper SPA (Single Page Application) architecture.

Features

- **Operations** : Addition, Subtraction, Multiplication, Division, Modulo (%) support
- Decimal handling with validation (prevents multiple dots)
- Backspace support
- Clear (C) functionality
- Operator validation (prevents invalid sequences like ++, *-)
- Result state handling
- Angular Routing implemented
- Responsive & centered layout
- Dark theme calculator UI

Project Setup Commands

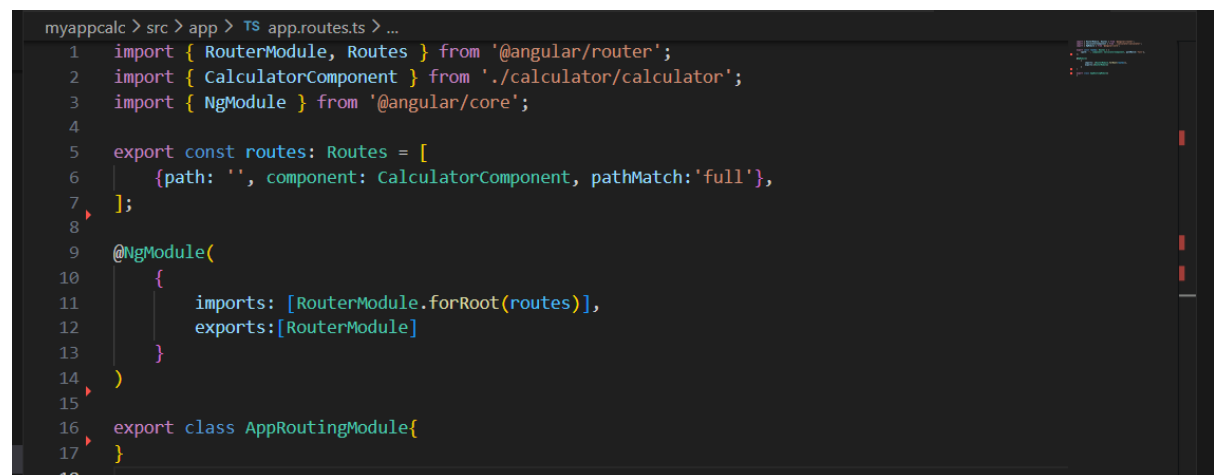
Angular project created with routing enabled

```
ng new myappcalc --routing
```

Calculator component generated

```
ng g c calculator
```

Default route configuration

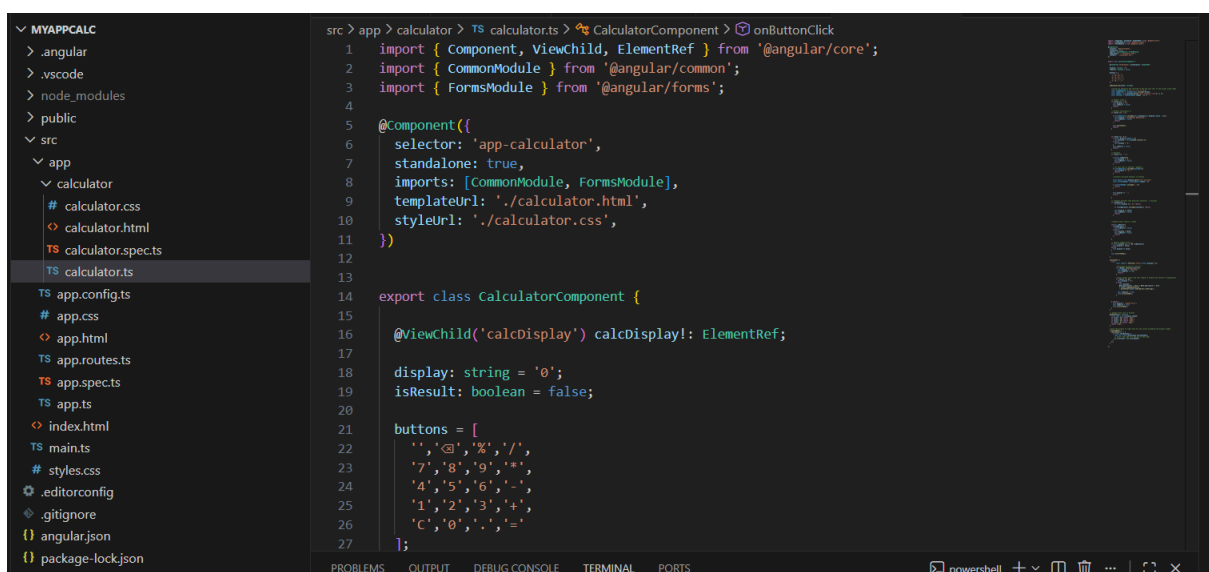


```
myappcalc > src > app > TS app.routes.ts > ...
1  import { RouterModule, Routes } from '@angular/router';
2  import { CalculatorComponent } from './calculator/calculator';
3  import { NgModule } from '@angular/core';
4
5  export const routes: Routes = [
6    {path: '', component: CalculatorComponent, pathMatch:'full'},
7  ];
8
9  @NgModule(
10   {
11     imports: [RouterModule.forRoot(routes)],
12     exports:[RouterModule]
13   }
14 )
15
16 export class AppRoutingModule{
17 }
18
```

Router outlet used in root template:

```
myappcalc > src > app > < app.html > ...
Go to component
1 <nav class="navbar navbar-dark bg-dark">
2
3   <div class="container-fluid">
4     <span class="navbar-brand m-0 h1"> Angular Calculator</span>
5   </div>
6
7 </nav>
8
9
10 <div class="container mt-4">
11   <router-outlet></router-outlet>
12 </div>
13
```

Calculator Component using FormsModule, Component, ViewChild, ElementRef



```
src > app > calculator > TS calculator.ts > CalculatorComponent > onButtonClick
1 import { Component, ViewChild, ElementRef } from '@angular/core';
2 import { CommonModule } from '@angular/common';
3 import { FormsModule } from '@angular/forms';
4
5 @Component({
6   selector: 'app-calculator',
7   standalone: true,
8   imports: [CommonModule, FormsModule],
9   templateUrl: './calculator.html',
10  styleUrls: ['./calculator.css'],
11 })
12
13 export class CalculatorComponent {
14
15   @ViewChild('calcDisplay') calcDisplay!: ElementRef;
16
17   display: string = '0';
18   isResult: boolean = false;
19
20   buttons = [
21     '(', ')', '@', '%', '/', '*',
22     '7', '8', '9', '-',
23     '4', '5', '6', '+',
24     '1', '2', '3', '=',
25     'C', '0', '.', 'x'
26   ];
27 }
```

How to Run the Project

Install dependencies

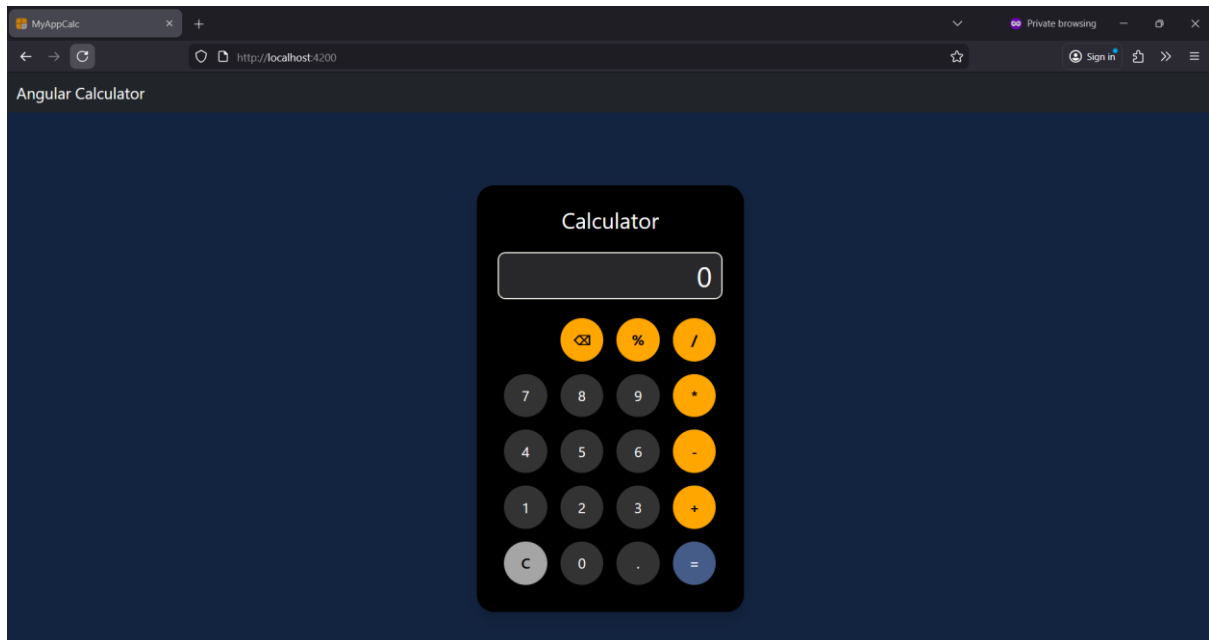
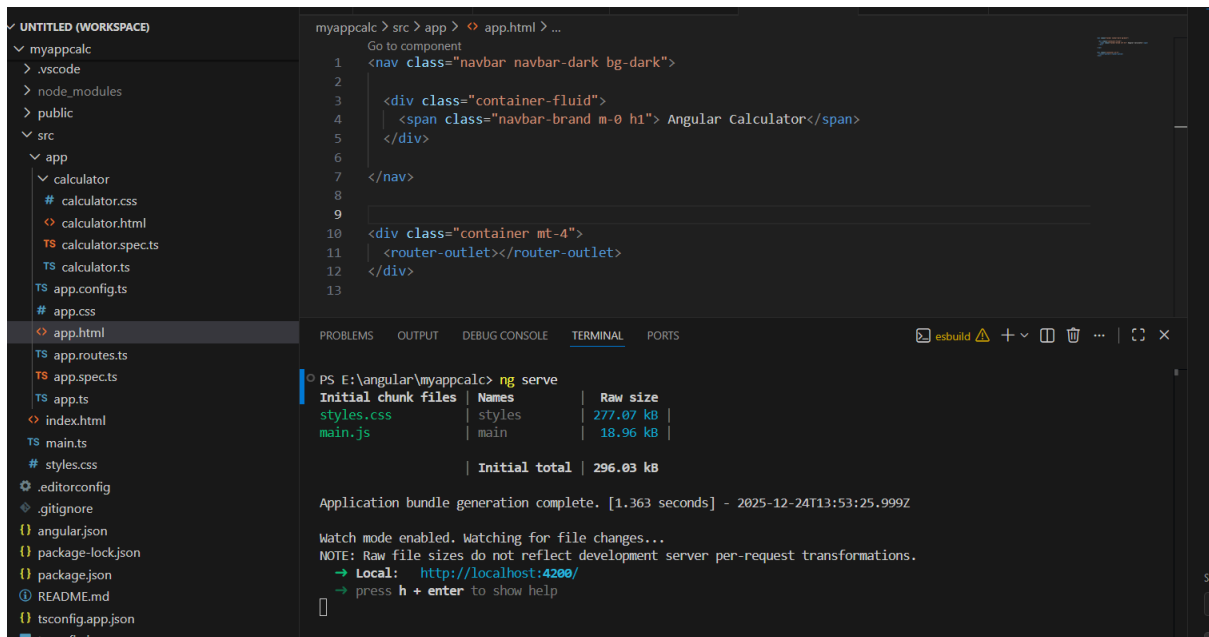
npm install

Start development server

ng serve

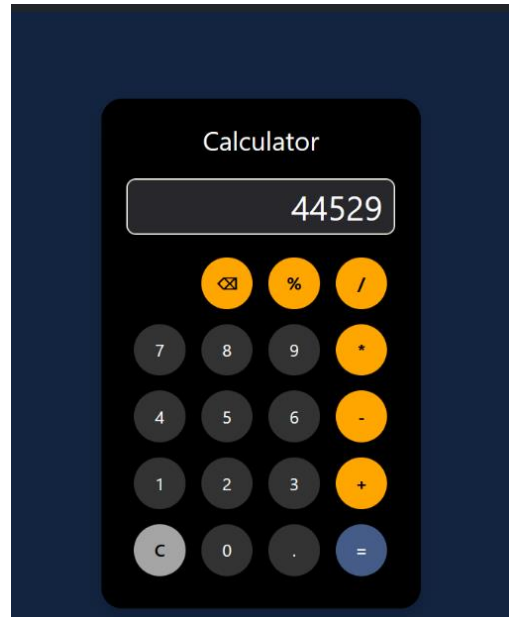
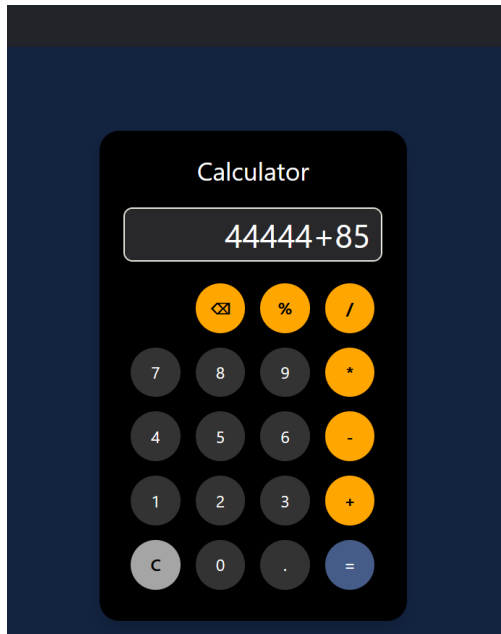
Open in browser

<http://localhost:4200>

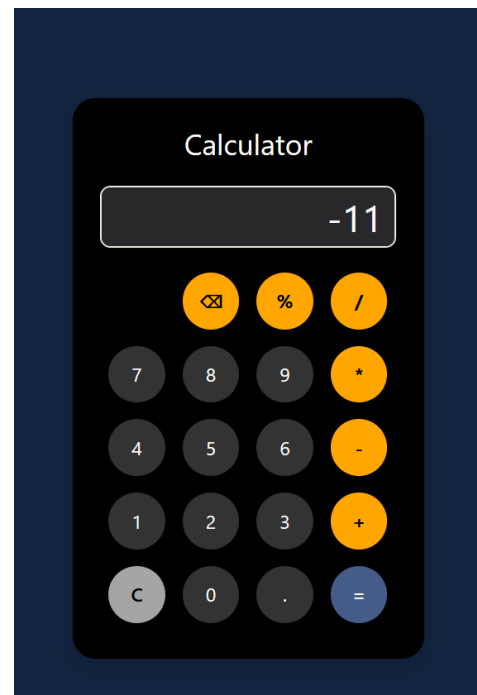
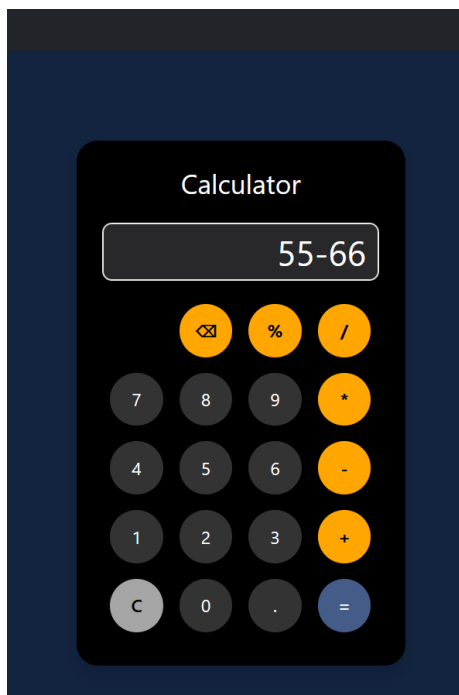


Operations:

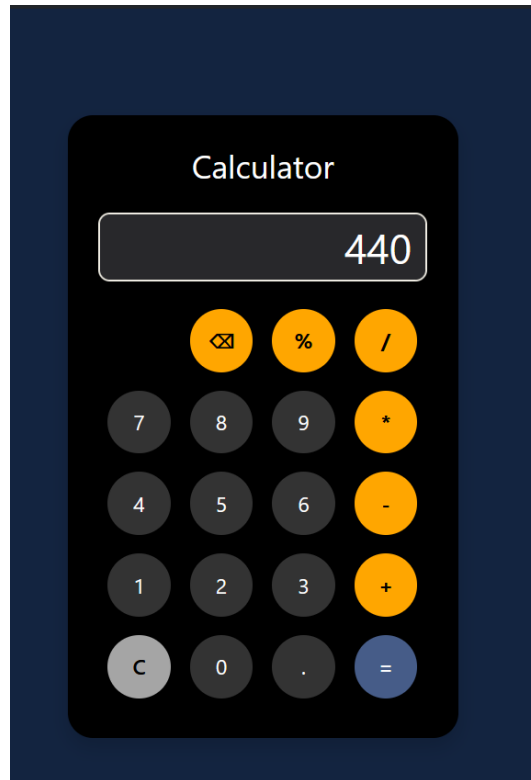
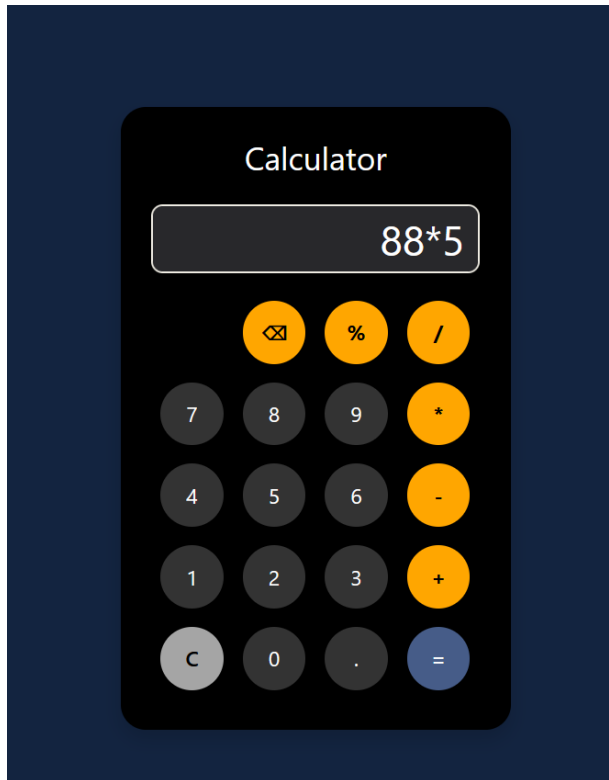
Addition:



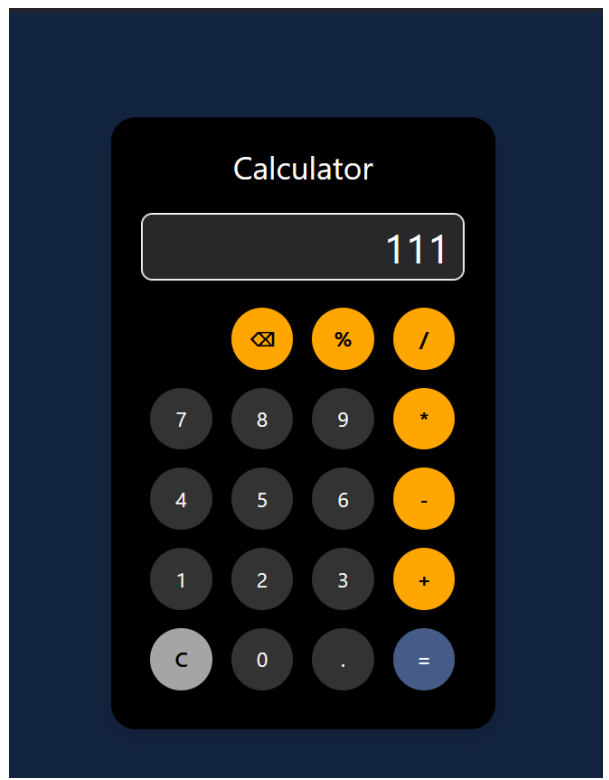
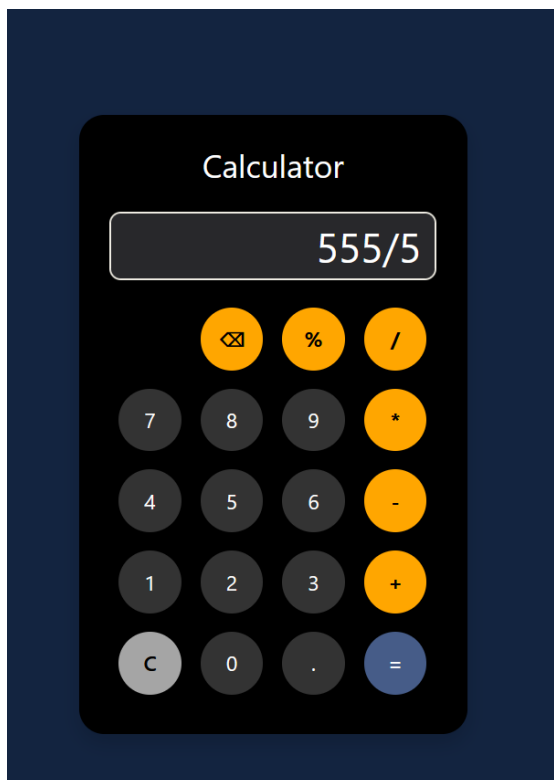
Subtraction:



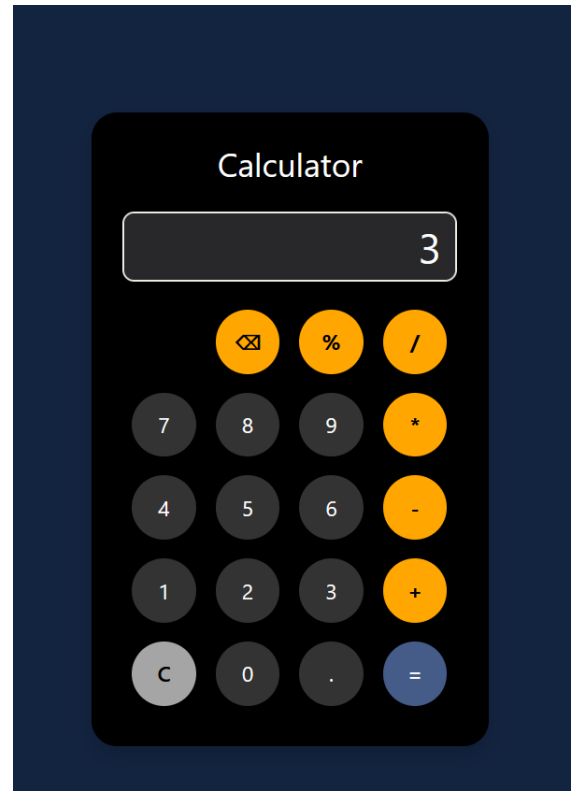
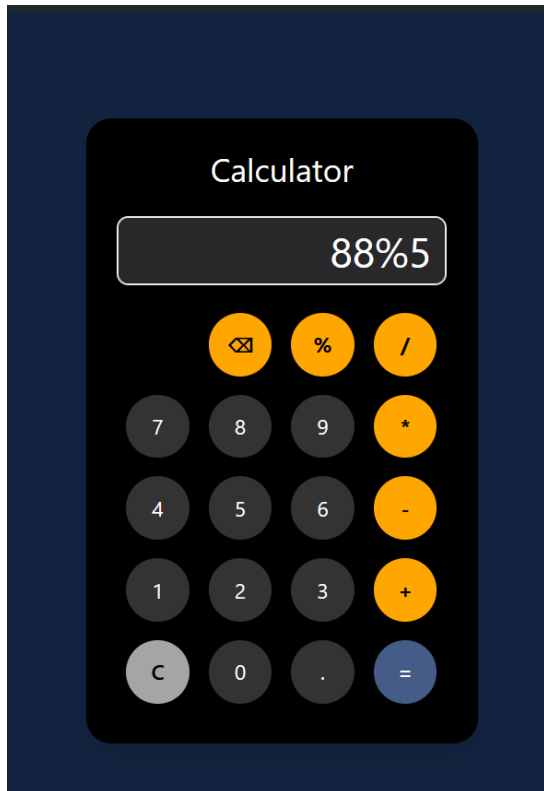
Multiplication:



Division:



Modulo:



Dynamic Size Change in Display of Calculator:

