

Task: Implement a Counter Application Using Signals in Angular 19

Objective

Create an Angular 19 application that uses signals to manage a shared counter state across components.

Requirements

1. CounterService

- Create a service named `CounterService`.
- Define a signal `count` initialized to `0`.
- Define a computed signal `isEven` that returns `true` if `count` is even, `false` otherwise.
- Implement methods:
 - `increment()`: Increases `count` by 1.
 - `decrement()`: Decreases `count` by 1, but not below 0.
 - `reset()`: Sets `count` to 0.
- Expose `count` as a read-only signal.

2. CounterDisplayComponent

- Create a standalone component named `CounterDisplayComponent`.
- Inject `CounterService` using `inject()`.
- Display the current `count` value and `isEven` status in the template (e.g., "Counter: 4 (Even)").

3. CounterControlsComponent

- Create a standalone component named `CounterControlsComponent`.
- Inject `CounterService` using `inject()`.
- Include three buttons in the template:
 - "Increment": Calls `increment()`.
 - "Decrement": Calls `decrement()`.
 - "Reset": Calls `reset()`.

4. AppComponent

- In the standalone `AppComponent`, include:
 - At least two instances of `CounterDisplayComponent`.
 - One instance of `CounterControlsComponent`.
- Ensure updates from `CounterControlsComponent` reflect in all `CounterDisplayComponent` instances.

Notes

- Use `@Injectable({ providedIn: 'root' })` for `CounterService`.
- Access signal values in templates with function call syntax (e.g., `{{ count() }}`).
- Ensure all components are standalone and properly import required dependencies.