Topic : useRef Hook..

Assignment: Simple Stopwatch App

Scenario:

You are tasked with building a simple Stopwatch application where users can start, stop, and reset a timer.

The application will make use of the useRef hook to manage the timer interval, ensuring the timer continues to run smoothly even if the component re-renders.

This assignment will help you practice using the useRef hook in React with TypeScript.

Requirements:

- Project Setup:
- Create a new React project with a TypeScript template and name it StopwatchApp.
- Component Structure:
  - Create a Stopwatch Component:
- This component should display the elapsed time in seconds.
- It should have three buttons: "Start", "Stop", and "Reset".
- Use the useRef hook to store the interval ID when the timer is running.
  - Create an App Component:
- This component should render the Stopwatch component.

Tasks:

1. Using useRef for Timer Management:
- Implement the Stopwatch component to manage the timer using useRef.
- When the "Start" button is clicked, the timer should start incrementing the elapsed time every second.

- When the "Stop" button is clicked, the timer should stop, and the elapsed time should remain displayed.
- When the "Reset" button is clicked, the timer should stop, and the elapsed time should reset to 0.

2. State Management:
- Use the useState hook to manage the elapsed time.
- Use the useRef hook to keep track of the interval ID to ensure that the interval can be cleared correctly.

3. Expected Outcome:
- A simple stopwatch application where users can:
- Start the timer and see the elapsed time in seconds.
- Stop the timer and keep the elapsed time displayed.
- Reset the timer to start from 0 again.
