What does the method do?

O(1) — RunConstantScenario

What it does: grabs the first element of the array

Why it's O(1): It's constantly processing one thing no matter how big the array gets.

Runtime change: Essentially flat, the results show ~0 ms at every size. It's just so fast it doesn't ever get to 1 ms..

O(n) — RunLinearScenario

What it does: loops through the whole array and return the sum of all elements

Why it's O(n): It is linear as it goes through and interacts with each element once.

Runtime change: It should get roughly 10× slower as it gets 10× bigger. On my machine it still printed 0 ms, but based on the complexity it is getting bigger, just too small of a difference to show up in the result.

O(n²) — RunQuadraticScenario

What it does: runs a nested loop over the array, combining every element into pairs.

Why it's O(n²): two full loops over the same array means n × n operations the growth itself is quadratic.

Runtime change: This is the one that actually has a notice able change, and I believe it was 2.8x-3x slower when it was in the other project because I'm calling it from another project. Just my own theory that I'm thinking about the cause of why it's giving me roughly 3x longer.