--- Day 7: The Treachery of Whales ---

A giant whale has decided your submarine is its next meal, and it's much faster than you are. There's nowhere to run!

Suddenly, a swarm of crabs (each in its own tiny submarine - it's too deep for them otherwise) zooms in to rescue you! They seem to be preparing to blast a hole in the ocean floor; sensors indicate a massive underground cave system just beyond where they're aiming!

The crab submarines all need to be aligned before they'll have enough power to blast a large enough hole for your submarine to get through. However, it doesn't look like they'll be aligned before the whale catches you! Maybe you can help?

There's one major catch - crab submarines can only move horizontally.

You quickly make a list of the horizontal position of each crab (your puzzle input). Crab submarines have limited fuel, so you need to find a way to make all of their horizontal positions match while requiring them to spend as little fuel as possible.

For example, consider the following horizontal positions:

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16,1,2,0,4,2,7,1,2,14
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This means there's a crab with horizontal position 16, a crab with horizontal position 1, and so on.

Each change of 1 step in horizontal position of a single crab costs 1 fuel. You could choose any horizontal position to align them all on, but the one that costs the least fuel is horizontal position 2:

- Move from 16 to 2: 14 fuel
- Move from 1 to 2: 1 fuel
- Move from 2 to 2: 0 fuel
- Move from 0 to 2: 2 fuel
- Move from 4 to 2: 2 fuel
- Move from 2 to 2: 0 fuel
- Move from 7 to 2: 5 fuel
- Move from 1 to 2: 1 fuel
- Move from 2 to 2: 0 fuel
- Move from 14 to 2: 12 fuel

This costs a total of 37 fuel. This is the cheapest possible outcome; more expensive outcomes include aligning at position 1 (41 fuel), position 3 (39 fuel), or position 10 (71 fuel).

Determine the horizontal position that the crabs can align to using the least fuel possible. How much fuel must they spend to align to that position?