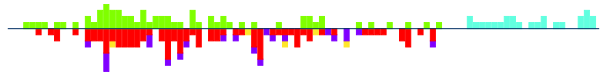
F: Fair Play

Problem Author: Robin Lee



- **Problem:** decide if it is possible to pair up vectors so that the sum of each pair is the same.

Statistics: 208 submissions, 66 accepted, 25 unknown

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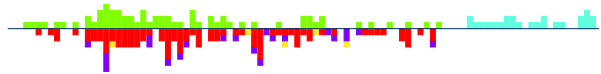

- **Problem:** decide if it is possible to pair up vectors so that the sum of each pair is the same.
- If this is possible, then the sum is equal to two times the average. Calculate this average, and check if it is integer.

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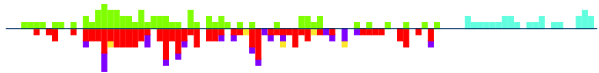

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- If this is possible, then the sum is equal to two times the average. Calculate this average, and check if it is integer.
- If it is, say it is (a, b), pair up the vectors one by one: for every vector (x, y) there needs to be a vector $(2a - x, 2b - y)$.

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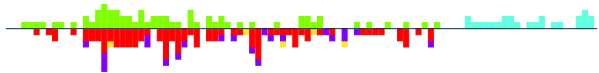

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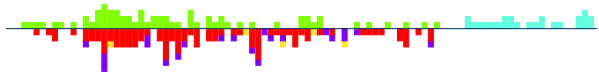

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- Runtime: $\mathcal{O}(n)$.

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