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- We use a system of two equations that allows solving for a and b
- Equation 1):

$$a+b = \underbrace{\frac{n(n+1)}{2}}_{\sum_{x\in[n]} x} - \sum_{x\in[n]\setminus\{a,b\}} x$$

$\sum_{x\in[n]} x$ is a constant

- Equation 2):

$$a^2+b^2 = \underbrace{\frac{n(n+1)(2n+1)}{6}}_{\sum_{x\in[n]} x^2} - \sum_{x\in[n]\setminus\{a,b\}} x^2$$

$\sum_{x\in[n]} x^2$ is a constant

- To get the value of b we can solve 1) for a and then substitute a in 2) with the result. Then after finding b we can easily find a.
- So our stream algorithm aggregates the sums over $[n]\setminus\{a,b\}$ and solves the equations at the end
- The biggest thing stored is $\frac{n(n+1)(2n+1)}{6}$ and

$\Rightarrow O(\log n^3) = O(\log n)$ bits needed