

Three Arrays

Subgroup 1. $n \leq 15$

We will iterate through all possible operations, and choose the appropriate answer among them. The time complexity is $\mathcal{O}(2^n \cdot n)$.

Subgroups 3, 5. $D_i = 0$

The values of A_i, B_i can only change during the minimum operation.

We will iterate through the final value $A_n = c$. This can be any of the values $L_i \leq a_0$ or a_0 itself.

The value of B_n is determined as the minimum of b_0 and the values R_i such that $L_i < c$.

We obtain the solution in $\mathcal{O}(n^2)$ or $\mathcal{O}(n \log n)$ depending on the method of calculating the value of B_n .

Full solution.

Notice that the final values have the form $A_n = L_p + D_{p+1} + D_{p+2} + \dots + D_n$ and $B_n = R_q + D_{q+1} + D_{q+2} + \dots + D_n$ for some $0 \leq p, q \leq n$.

Replace L_i with $L_i + \sum_{j=i+1}^n D_j$, R_i with $R_i + \sum_{j=i+1}^n D_j$.

We reduce the problem to the case $D_i = 0$.

We obtain solutions of different complexities from $\mathcal{O}(n^3)$ to $\mathcal{O}(n \log n)$.