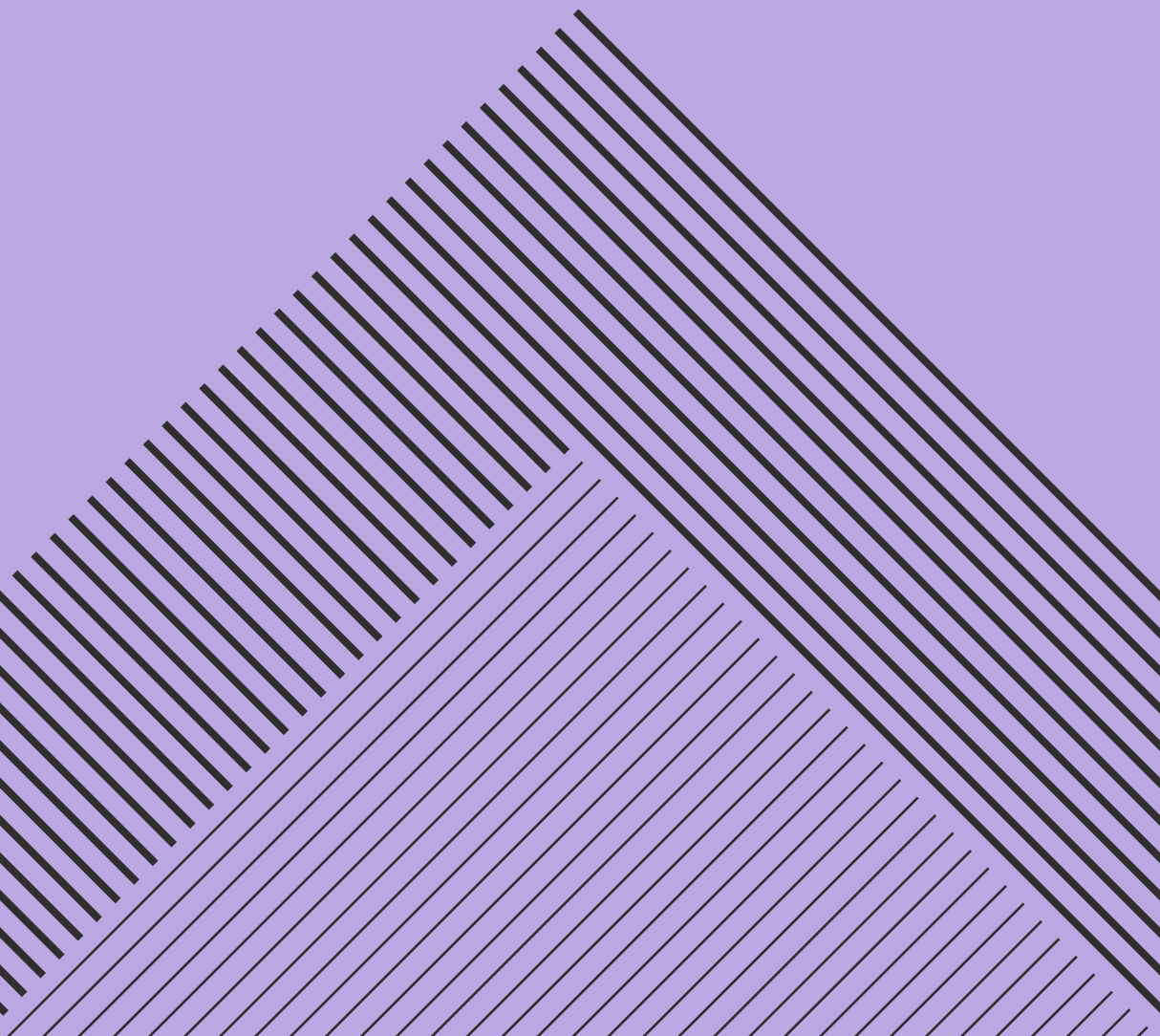

Binary Search

Kth-Sum → most classic one

→ checking part is very normal
(just fix it)

→ Binary search part ***

- How can we be sure that the final mid will be one of the sums?

→ it will definitely be (but we must come from the right side)

say we got sums like that

1 2 5 (7) 10 12 12 15 20

we want 4th smallest sum (7)

say at some point we got mid = 9

so, for <= 9 , cnt = 4 = k

but we are searching that smallest x for which still cnt >= k

so, again we will try to find x

say mid = 8 cnt = 4

then mid = (7) ** cnt = 4

but we cannot move left now because cnt will be (3)

9 থেকে সরালাম still cnt = 4

8 থেকে সরালাম still cnt = 4

but 7 থেকে সরাতে সাথে সাথে cnt = 3

that means → 7 নিজেই একটা sum ছিলো

check(mid) <= k → ans = 9

because we will get the last value for which cnt<=k