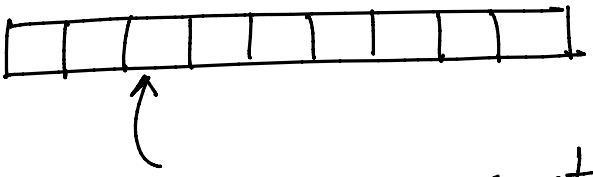
Class 12

Tuesday, June 29, 2021 9:45 PM

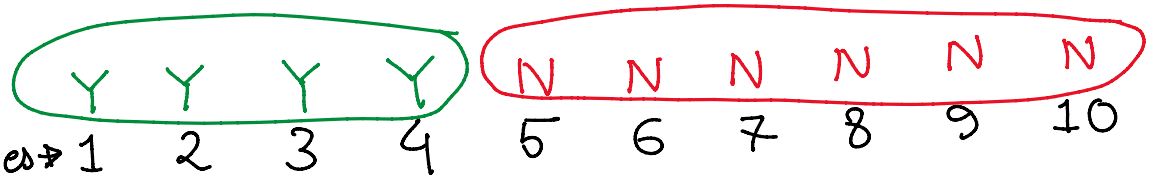


fixed array → sorted array → find any element

atmost $\log N$

$[1, 10^{18}]$ → 99 23 7856

(A $[1, 10]$ → value = 4



guessed value $\leq$ value → Y

guessed value $>$ value → N

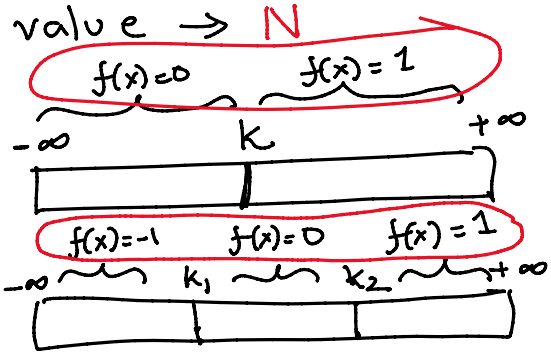
value =

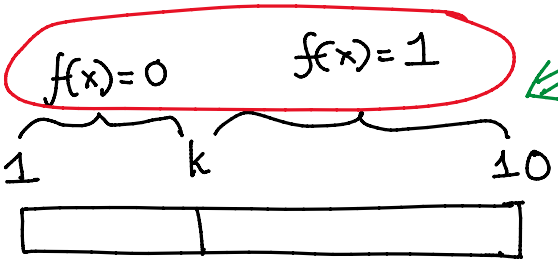
$x \in [-\infty, k]$

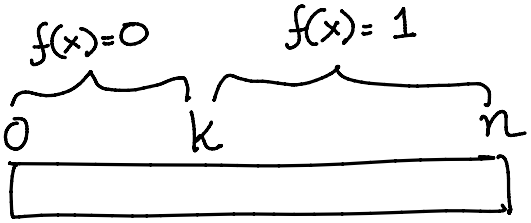
$f(x) = 0$

$x \in [k+1, +\infty]$

$f(x) = 1$

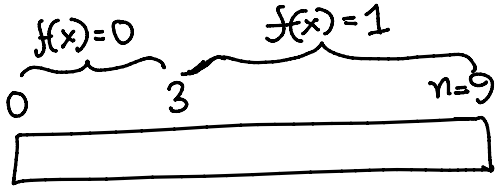






$k = \sqrt{n}$

$f(x) = x^2 \geq n$



~~k~~ = 3

$k_1 = 3.000000000\ldots1$

$k_1 = 3.000000000\ldots 1$

$k_2 = 2.999999999\ldots$

$k_1 = k_2$

$n = 4 \quad k = 12 \quad [1 \to n] \to k \quad n/k$

ans > k

k+

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

total − (mult. of k)

10 − 2 = 8

$14 - \left\lfloor \frac{14}{4} \right\rfloor = 14 - 3 = 11$

total = 16

mult of k = $\frac{16}{4} = 4$

series value = 16 − 4 = 12

$\frac{L+R}{2} = L + \left(\frac{R-L}{2}\right)$

$= \frac{2L+R-L}{2}$

$= \frac{L+R}{2}$

[1, 10]

$M = \frac{L+R}{2}$

6 7

$6 + \left(\frac{7-6}{2}\right) = 6 + 0.5 = 6.5$

$\frac{L+R}{2}$

13

L = 7

R = 6

M = 6.5

1 3 5 7 9 11