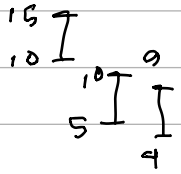
# Maximize Score of Numbers in Range:

arr: [ 10, 5, 4, 20 ]
d = 5

intervals:

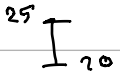

chose 1 number from each interval.

let say $\{x_1, x_2, x_3, x_4\}$

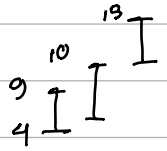
Score of this choice $= \min\{abs(x_j - x_i)\}$

Need to maximize the score.

Vlad's sol$^n$:




sort: 4, 5, 10, 20

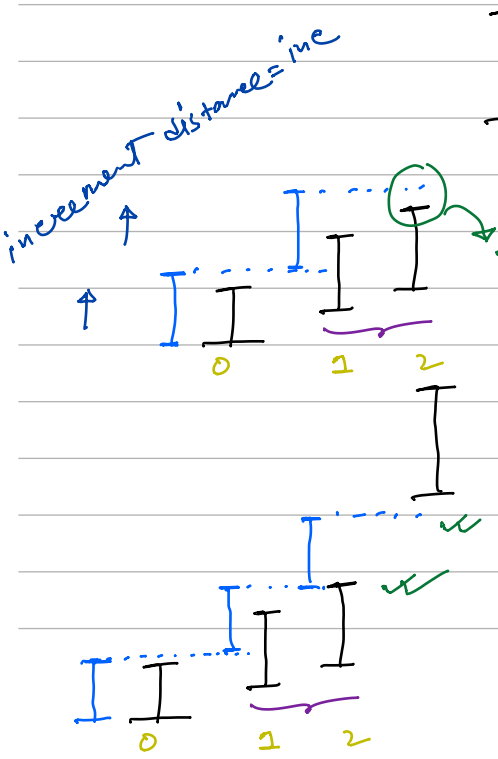



Binary search $l = 0$, $i = (10 - 4) = 6$

↳ can't have less than 4 from interval 1
" " more " 10 " " 2

※ Algo to check whether a minimum diff = d possible in these intervals.

ivl = { {2, 8}, {9, 11}, {12, 22} ... }




```
height = intervals[0][0]
for(int i=1; i<n; i++)
    height = max(interval[i][0],
                 height + inc)
if (height > interval[i][1])
    // This inc is not minimum,
```