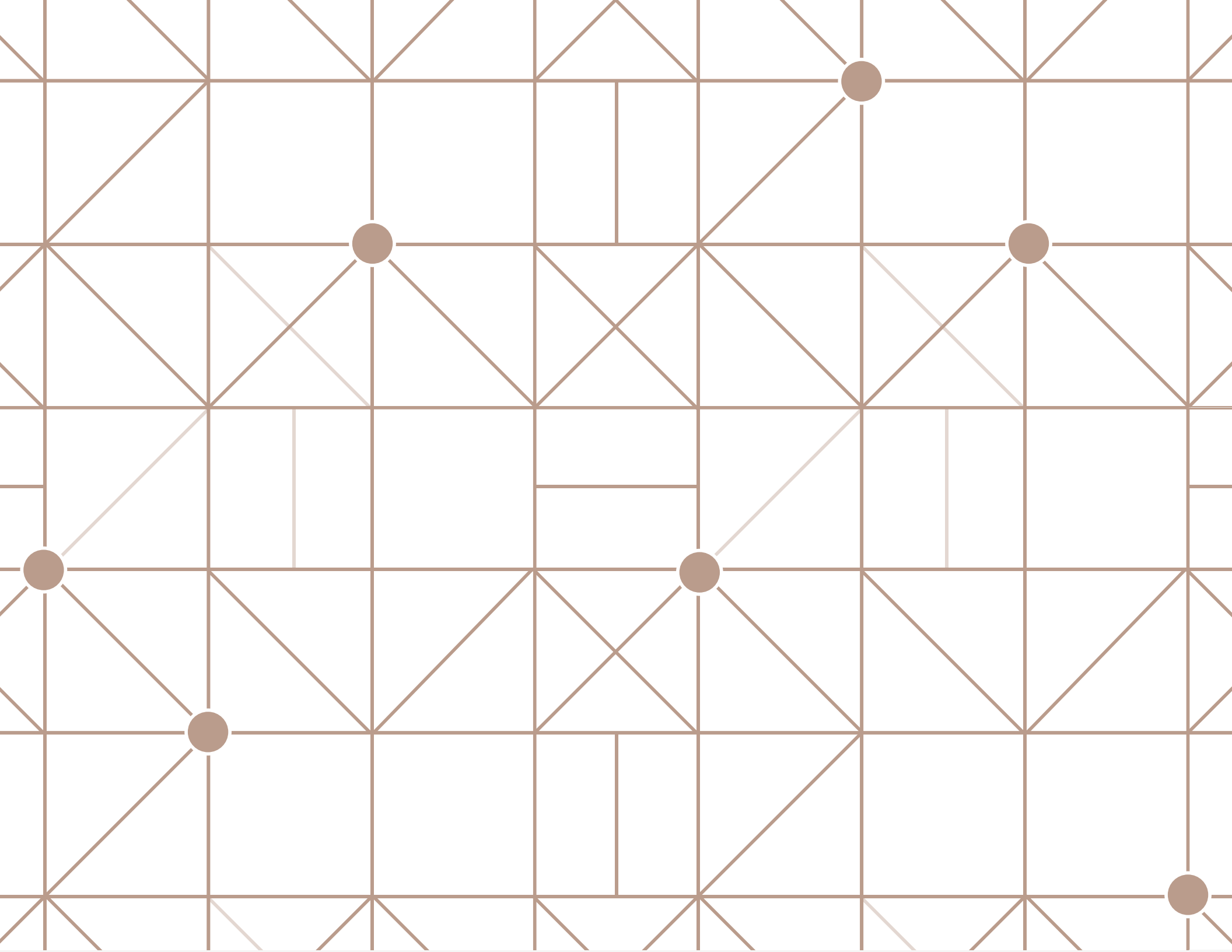
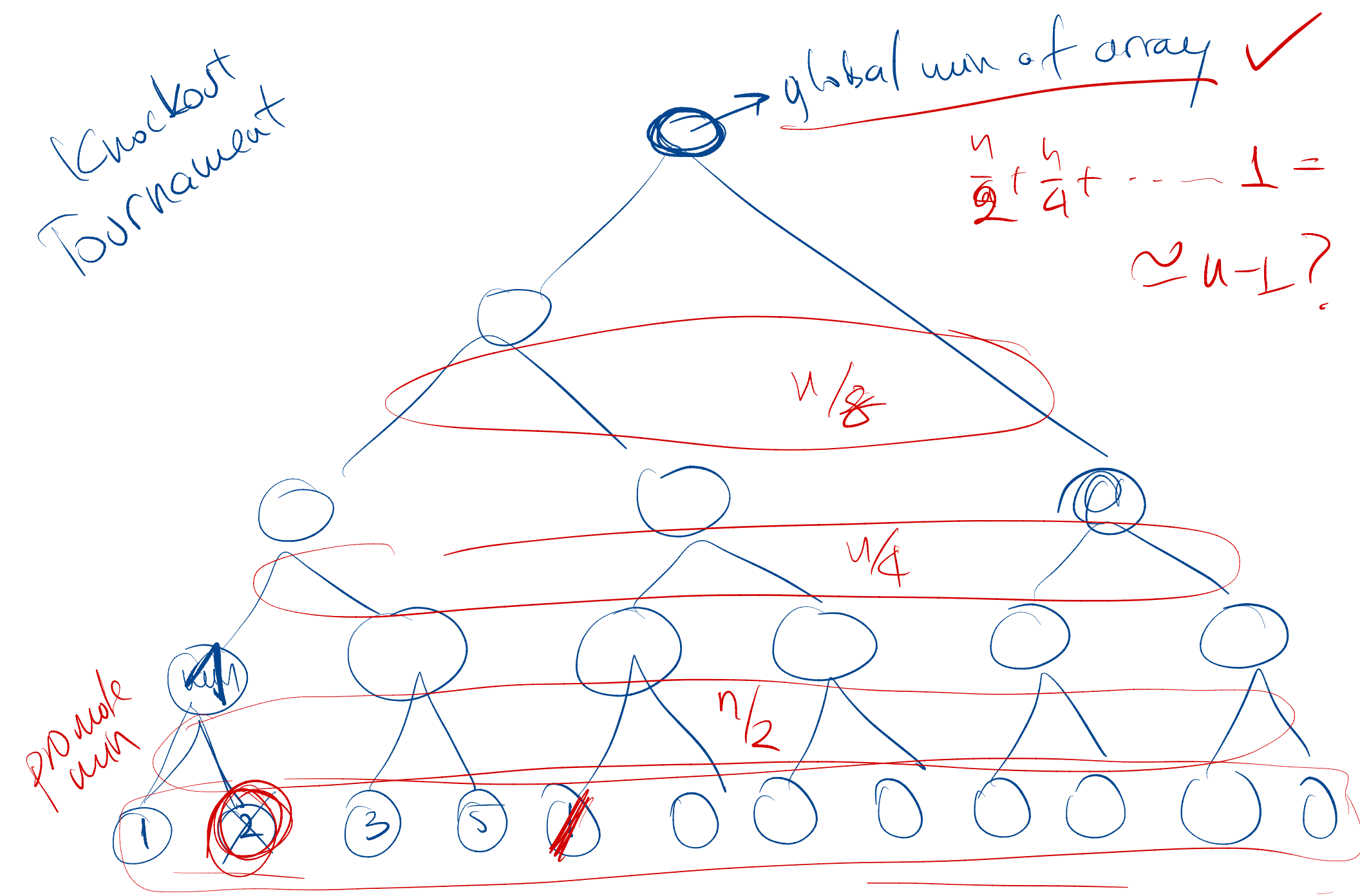
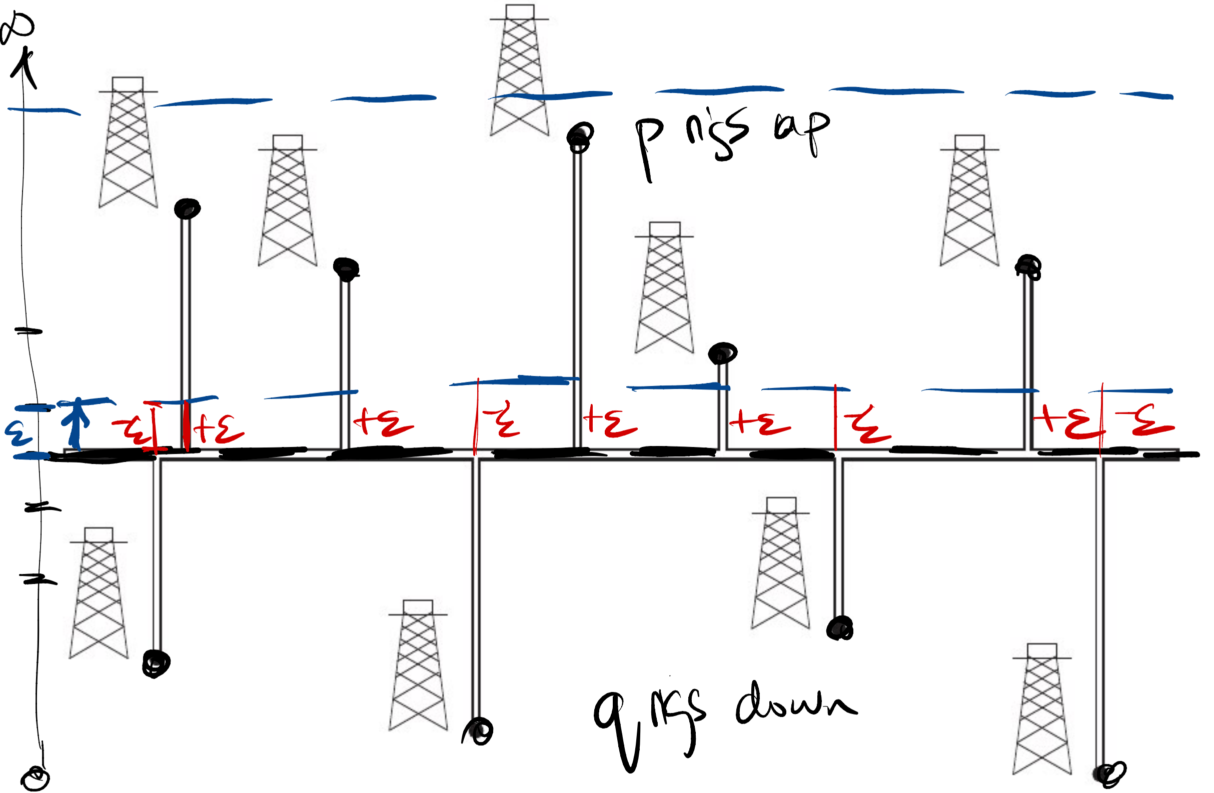



Knockout Tournament
global sum of array
$\frac{n}{2} + \frac{n}{4} + \cdots 1 =$
$\simeq n-1$?
$n/8$
$n/4$
$n/2$
promote sum
1
2
3
5
4



∞
ε
p rigs up
q rigs down
-ε
+ε
0

move ε up (towards p nss)

Δ: $+\varepsilon \cdot p - \varepsilon \cdot q$

saving $\varepsilon(p-q)$

ε down move

$\varepsilon(q-p)$

line to be optimal

$\Leftrightarrow$ any move up or down has negative Δ (no pos improvement on cost)

can I have $p=10, q=6$? for optimal line

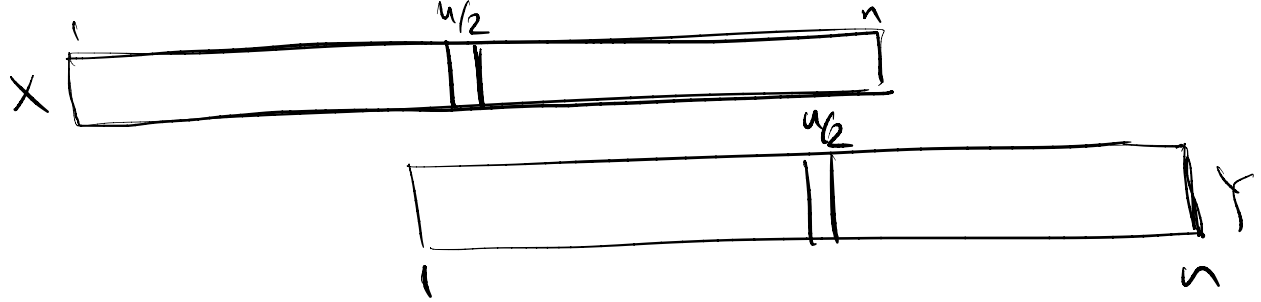
No because $p-q=4 \Rightarrow$ move up by ε has $\Delta = -4\varepsilon$ positive

can I have $p=3 \quad q=5$? No for optimal line

$q-p=2 \rightarrow$ move down by ε has $\Delta = 2\varepsilon > 0$

9.3-8

sorted file



$X_{max} < Y_{min} \Rightarrow$ not interisting

Intrsect $X_{median} < Y_{median}$

$\Rightarrow$ rec_call(X[large_half], Y[small_half])

reduction by 2 factor

$\log(n)$ steps

Q: can I miss the median

X: 1 4 8 13 25

Y: 0 2 3 12 23