Geometric Intersection

Detecting Intersection Between Convex Polygons

- Complexity

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❖ As a conclusion:

at least a half of edges of

at least one of the chains

can be eliminated in $O(1)$ time

❖ Recurrence: $T(n) = T(3n/4) + O(1)$

$T(1) = O(1)$

❖ Solves to: $T(n) = O(\log n)$

❖ [Dobkin & Kirkpatrick, 1983]

Whether two convex polygons intersect can be determined

in $O(\boxed{\log(n + m)})$ time,

where n and m are the polygon sizes resp.