01-K-04

Convex Hull

Divide-and-conquer (1)

- Exterior

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Case 2. Centroid Lies Exterior to P_2

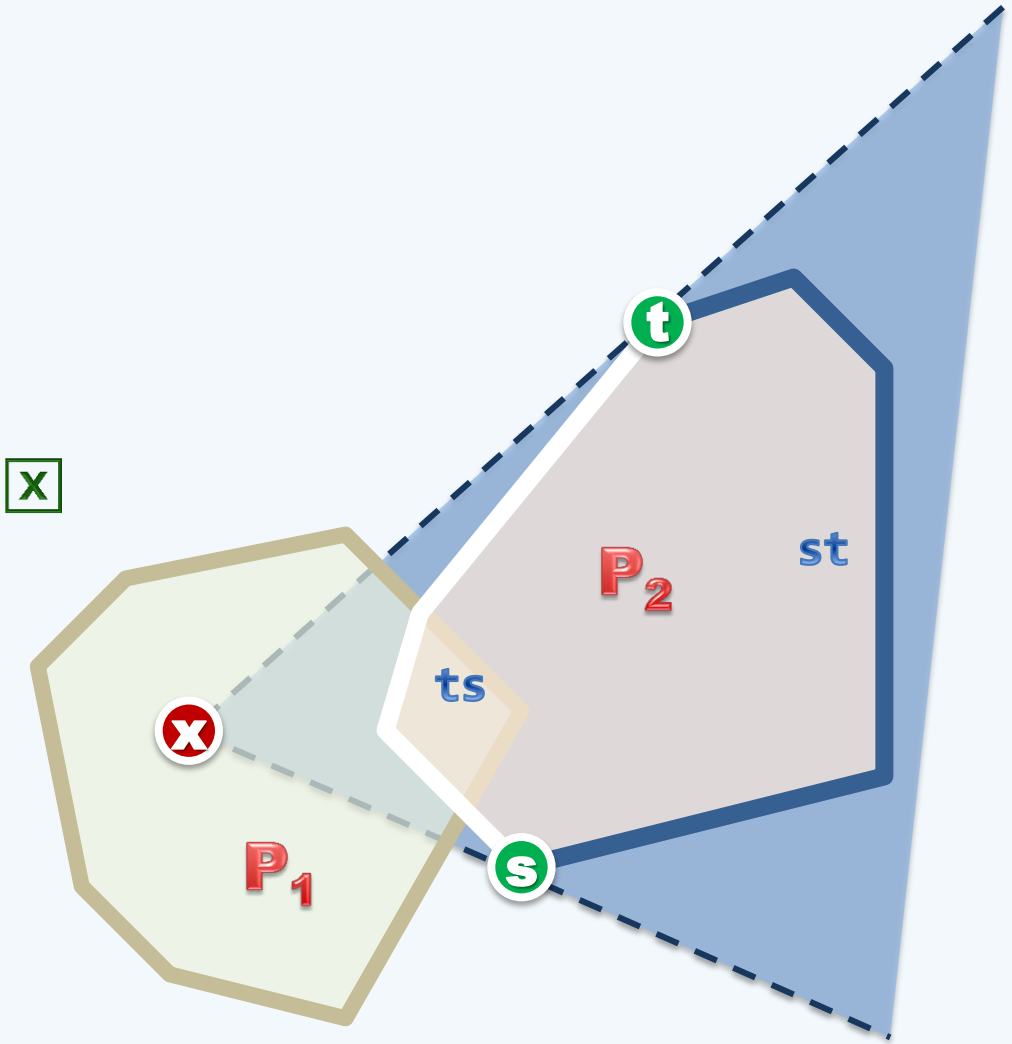
- P_1 is **ordered** w.r.t. **x**, whereas

  P_2 **not**

- P_2 is divided (by 2 tangent points)

  into 2 monotone sub-chains w.r.t. **x**

  - **st** is **ascending**
  - **ts** is **descending**



Monotonicity

- How to find s and t?
- Can it be done, say, in $O(m)$ time?
- Note that during a CCW traversal,

  ts/st keeps x on its Right/Left

- Merge P_1 and st
  - in $O(n + m)$ time before
  - applying Graham scan