02-H-03

Geometric Intersection

Edge Chasing

- Analysis

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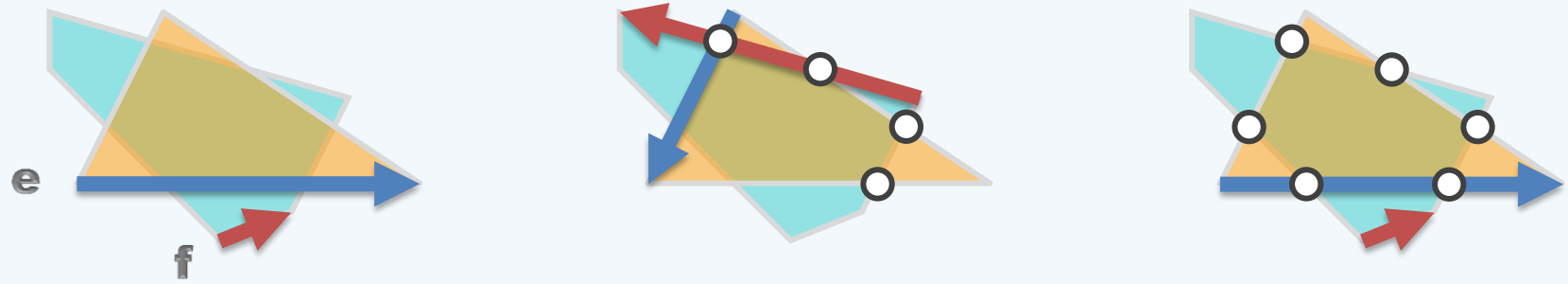
Complexity

❖ O'Rourke's algorithm can be viewed as

a geometric generalization of **merging** two sorted lists



❖ As we've seen

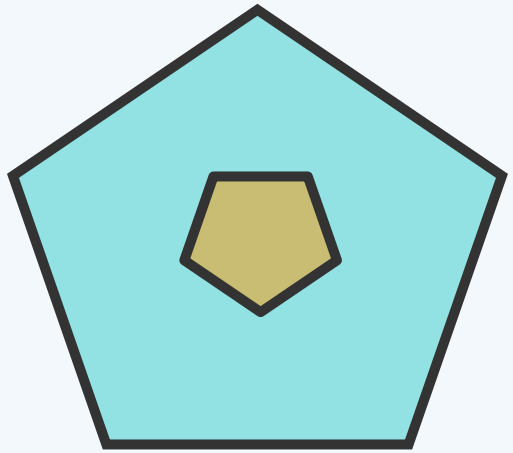
- the algorithm traverses each convex polygon only once; and
- either e or f will advance in $O(1)$ time

❖ As a conclusion,

this algorithm solves the CPIC problem in $O(n + m)$ time

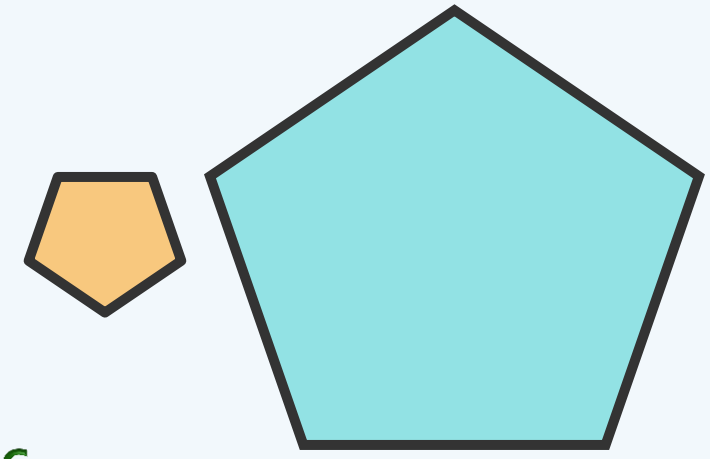
Special Case

- How to distinguish between
  - the case when a convex polygon lies entirely interior to another and
  - the case when they are disjoint?



- Besides, can this be done in linear time?

  Think about it ...



- Actually, there is another simpler plane sweep approach to solve CPIC ...