01-B-02

Convex Hull

Extreme Points

- Strategy

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Extreme Points ~ Convex Hull

- Bubblesort:

  A sequence is **sorted** iff

  every element is **ordered**

- Convex hull:

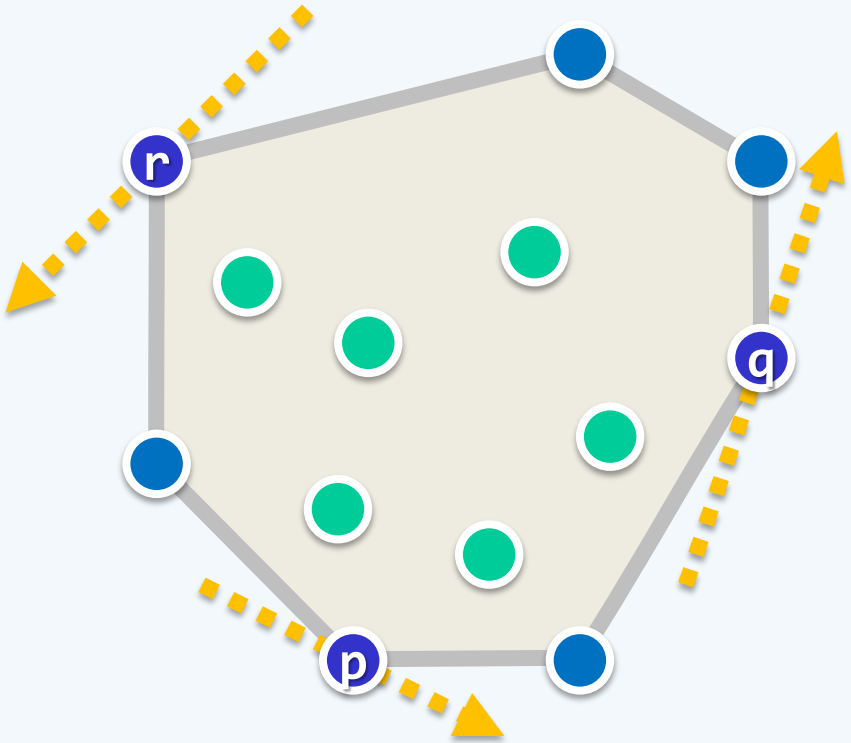
  A polygon is **convex** iff

  every vertex is **extreme**

- It suffices to construct CH(P)

  from **all** extreme points of S

- How to identify them?



Criterion

❖ Recall that

a paint can be obtained by mixing others iff

it lies inside a triangle in color space

❖ A point s is **not** an EP of S iff

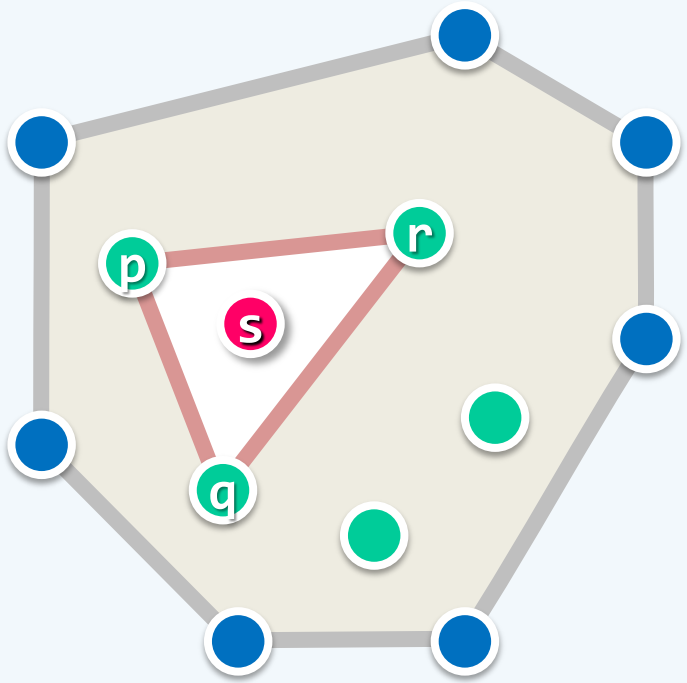
there exists { p, q, r } ⊆ S\{s}

s.t. $s \in \Delta(p, q, r)$

where Δ(p, q, r) denotes

the **closed** triangle

defined by p, q and r



❖ Note that p, q and r are not necessarily EPs