**Topics**

* **Precision Issues**
  + Integer calculation
    - fraction class
  + EPS
* **Vector**
  + Cross Product
    - Area of a polygon
    - Orientation with respect to a segment/line (isLeft)
* **Intersection**
  + Line - Line
  + Line - Segment
  + Segment - Segment
  + Circle - Line
  + Circle - Segment
  + Polygon - Line
  + Polygon - Segment
  + Polygon - Polygon
* **Area of a Polygon**
  + Convex
  + Concave
* **Point Inside a polygon**
  + Convex
    - O(n)
    - O(log (n))
  + Concave
    - Ray shooting
* **Angular Sort**
* **Convex Hull**
  + O(n3)

**Resources**

* Computational Geometry chapter in CLRS (Coremen)
* <https://www.topcoder.com/community/data-science/data-science-tutorials/geometry-concepts-basic-concepts/>

**Problems**

* <https://www.urionlinejudge.com.br/judge/en/problems/index/8>
* <http://uhunt.onlinejudge.org/> (Computation Geometry Book Chapter)
* <https://a2oj.com/category?ID=21>