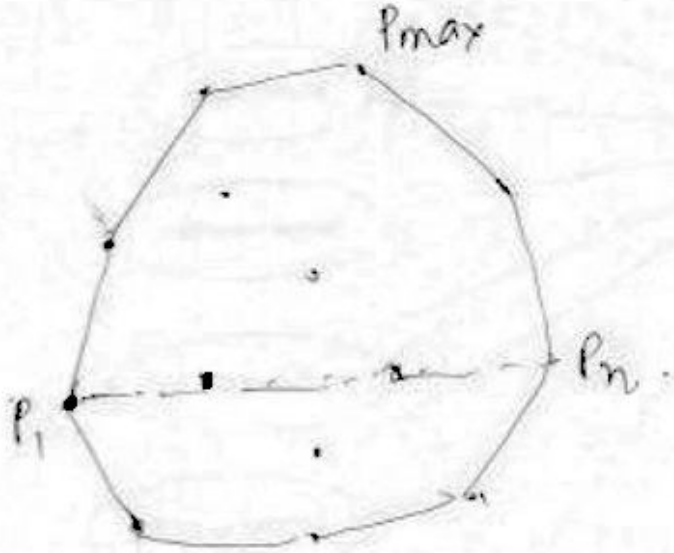
Conver_Hull

Convex hull is the smallest convex polygon that contain all the points in the plane

- Given a set X of point $P_1(X_1, Y_1) \ldots P_n(X_n, Y_n)$ in plane we want to find convex hull.
- Divide and conquer algorithm take $O(n \log n)$ time to compute convex hull in clockwise order



Process to find conver hull

1. Partition X into half X_1 and X_2 according x coordinates
2. If X_1 is empty then upper hull is simply line with end point P_1 and P_n.
3. If X is not empty the algorithm find P_{max} in X_1 which is farthest from lines P_1, P_n
4. If there tie in P_{max} then point the maximum angle $\angle P_{max} P_1 P_n$ can be secluded.
5. Now Algo identifies all point of X_1 that are left of line $P_1 P_{max}$ goto step 1