Centerpoints in the plane
If \( P \subset U \cup \{ A \} \cup \{ B \} \cup \{ C \} \)

Let \( L \) be a HS containing \( C \)

Then \( L \) is a CP of \( P \cup Q \)

If \( C \) is a center point of \( P \cup Q \)

Given \( H \) is a light HS
If \( p \neq h \) then

\[
\frac{3}{n^3} \geq 1 + \frac{1}{n} |h \cup (P \cup Q) - 1 + C|
\]

From \( \rho \) nodes sets

\[\varphi \leq \text{be a halfspace containing } C\]

\[n \text{ possible } n = \text{ fixed}\]
In the plane, we can find 115 cuts in $O(n)$ time.

Given a set in $\mathbb{R}^d$,

hyperplane that bisects each set

Ham Sandwich Thm.
\( T(n) = \sum_{\text{odd}} + O(n) = O(n) \)

Repeat until only a few pls left.

Repeat until one set is empty.

Replace with their Radon pt.

Pick one pt from each of 

\((n', (L,D', (R,U))\) and 

Find L, U, R, [O(n) time]

Algorithm