A Question for Next Time

Consider a set \( S \subset \mathbb{R}^2 \) of \( 2n \) points in general position and a balanced two-coloring of \( S \), that is, a partition of \( S \) into two sets \( R \cup B = S \) with \( |R| = |B| = n \).

A bichromatic plane perfect matching of \( S \) is a set of pairwise noncrossing straight-line edges such that every point of \( S \) is incident to exactly one edge, and every edge has one endpoint of each, \( R \) and \( B \).

Prove or disprove that such a matching always exists.