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85255. *Nested Links, Linking Matrices, and Crushtaceans.*

If two knots have homeomorphic complements, then they are isotopic; however, this is not true for links. Geometry and topology can be combined to show when certain hyperbolic links have homeomorphic complements. What remains is to determine if the links themselves are isotopic. We determine an algorithm to find the linking numbers of two types of hyperbolic links known as fully augmented links (FALs) and nested links from their respective graphical representations, known as crushtaceans. We will show that some links constructed from the same crushtacean are not isotopic. The algorithm shows that topological information can be obtained directly from the crushtacean's combinatorial data. One useful application of the algorithm is to distinguish links with homeomorphic complements.

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