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Cayley's theorem revisited: embeddings of small finite groups

One of the most fundamental results in group theory is Cayley's Theorem, which says that a group G of order n is isomorphic to a subgroup of S_n , the symmetric group on n symbols. In this talk we will look at several questions inspired by Cayley's theorem, such as what is the smallest m such that G embeds in S_m or what is the smallest m for which *all* groups of order n embed in S_m . Along the way we will discuss the joy of using the computer to explore questions such as these.

This is joint work with Des MacHale and Brendan McCann.