More on maximal subgroups of alternating and symmetric groups

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Abstract

This is an extension of Problem 12.82 of the Kourovka notebook, which asks for all ordered pairs \((n, m)\) such that the symmetric group \(S_n\) embeds in \(S_m\) as a maximal subgroup. This question was answered in a previous paper by the speaker and Benjamin Newton. Here, we will add a classification of all symmetric groups that embed maximally in an alternating group, all alternating groups that embed maximally in a symmetric group, and all alternating groups that embed maximally in another alternating group.

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