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*Partitions of homogenous graphs and other structures*

There are several different notions of vertex divisibility of structures. In particular in the case of homogeneous graphs and their ages. Or at least structures with a large automorphism group. Which of those notions imply which of the others? The three most prominent ones are the following:

(1) A structure is indivisible if for every partition of it into two parts there exists an embedding of the structure into one of the parts.

The age of a structure is the class of its finite induced substructures up to isomorphism.

(2) A structure is weakly indivisible if for every partition into two parts, for which the age of one of the parts is not equal to the age of the structure, is embeddable into the other part.

(3) A structure is age indivisible if for every partition into two parts the age of one of the parts is equal to the age of the structure.