

Classification of Combinatorial Objects

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The aim of classification is to produce one specimen from each isomorphism class of mathematical objects with given sets of parameters, thereby obtaining the exact number of isomorphism classes. However, the importance of such a number should not be overemphasized; for most purposes it suffices to know whether it is 0 or (if nonzero) what the order of magnitude is. The true importance of a classification is the possibility of addressing old conjectures and producing new ones, as a testbench for developing and improving algorithms (if it is a computer-aided result, which is commonly the case), and for constructing and classifying other related objects. In this talk we look at some of the main issues of classifying combinatorial objects, discussed in detail in [P. Kaski & P. R. J. Östergård, *Classification Algorithms for Codes and Designs*, Springer-Verlag, Berlin, 2006].