MATH COLLOQUIUM SERIES

School of Mathematical Sciences
Universiti Sains Malaysia

FORCING CONCEPTS IN COMBINATORIAL STRUCTURES (PART 2)

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Abstract. Given a class of combinatorial structures containing many distinct objects with the same parameters, how many individual objects are needed to identify it uniquely? Forcing concept which deal with the answer to this question was introduced by Frank Harary in 1991, where he was concerned with the smallest number of elements (vertices or edges) of a graph whose selection for inclusion in a specified set leaves no options for the remaining choice of the set. We discuss these forcing concepts in several combinatorial structures. We present several results on forcing concepts in Latin squares, graph colourings, graph dominating sets, graph matchings, block designs, digraph orientations, graph geodetic sets, hull sets and graph factorizations.

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