



# Lex colimits

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Many kinds of categorical structure require the existence of finite limits, of colimits of some specified type, and of "exactness" conditions between the finite limits and the specified colimits. Some examples are the notions of regular, or Barr-exact, or lextensive, or coherent, or adhesive category. We introduce a general notion of exactness, of which each of the structures listed above, and others besides, are particular instances. The notion can be understood as a form of cocompleteness "in the lex world" -- more precisely, in the 2-category of finitely complete categories and finite-limit preserving functors.

Comments: 38 pages; v2: final journal version, various minor changes and new Section 5.9 dealing with filtered colimits

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