Gordon Royle* (gordon@csse.uwa.edu.au), School of Mathematics & Statistics, University of Western Australia, 35 Stirling Highway, Nedlands, WA 6009, Australia, and Dillon Mayhew (dillon.mayhew@mcs.vuw.ac.nz), Mathematics, CS and Statistics, Victoria University of Wellington, Wellington, New Zealand. Matroids with nine elements.

We describe the construction of a database of the matroids on up to nine elements, along with a variety of matroidal properties, and an online interface to this database. This format permits the rapid searching of the database to extract either numerical data summaries ("How many matroids have property $X$, but not property $Y$?") or specific matroids ("Which matroids have property $X$, but not property $Y$?"). We present examples of both types of query and discuss a number of open questions raised by such investigations. (Received February 04, 2008)