

Matroids

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The numbers of non-isomorphic matroids, simple matroids and binary matroids on an n -element set for $0 \leq n \leq 8$

n	0	1	2	3	4	5	6	7	8
matroids	1	2	4	8	17	38	98	306	1724
binary matroids	1	2	4	8	16	32	68	148	342

Definition 0.1. Let I be the collection of subsets of E that do not contain all of the edges of any simple closed path or *cycle* of G

Definition 0.2. We get a matroid on the edge set of every graph G by defining I as above. This matroid is called the *cycle matroid* of the graph G and is denoted $M(G)$

Note. A matroid that is isomorphic to the cycle matroid of some graph is called graphic. And every graphic matroid is binary