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Title: CD-independent subsets in distributive lattices

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A subset X of a lattice L with 0 is called *CD-independent* if for any $x, y \in X$, either $x \leq y$ or $y \leq x$ or $x \wedge y = 0$. In other words, if any two elements of X are either comparable or “disjoint”. Maximal CD-independent subsets are called *CD-bases*. The main result says that any two CD-bases of a finite distributive lattice L have the same number of elements. It is also shown that distributivity cannot be replaced by a weaker lattice identity. However, weaker assumptions on L are still relevant: semimodularity implies that no CD-basis can have fewer elements than a maximal chain, while lower semimodularity yields that each maximal chain together with all atoms forms a CD-basis.

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