## Lattice structure of torsion classes for hereditary algebras

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In this work we consider certain subalgebras A of matrix algebras over algebraically closed fields, and their generalizations (matrix algebras with bimodules). These algebras can also be viewed as path algebras of quivers with no oriented cycles.

We study categories of modules, mod A, over such algebras, and torsion classes in mod A. For these algebras, torsion classes always form a lattice. Particularly important torsion classes among those are, so called, functorially finite torsion classes. We show that functorially finite torsion classes form lattice precisely when the algebra A has only finitely many isomorphism classes of indecomposable modules, or the algebra is related to 2x2 matrices (with bimodules). It is known that such torsion classes are closely related to tilting modules.

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