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Alexander Postnikov* (apost@math.mit.edu), Department of Mathematics, M.I.T., Room 2-389, 77 Massachusetts Ave, Cambridge, MA 02139-4307. *XYX algebras*.

We investigate a new class of associative algebras with relations of the following types $XY = YX$, $XYX = 0$, and $X^2 = 0$, for some generators X and Y . They generalize partially commutative monoids. We give a classification of such finite-dimensional algebras. It is related to classification of root systems. The dimensions of these algebras are equal to the numbers of fully commutative elements in corresponding Weyl groups. One particular example of such algebras leads to the study of certain new random walk related to the theory of partitions. (Received January 21, 2002)