# On the length of matrix algebras

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By the *length of a finite system of generators* for a finite-dimensional associative algebra over an arbitrary field we mean the least non-negative integer $k$ such that the words in these generators of lengths not exceeding $k$ span this algebra (as a vector space). The maximum length for the systems of generators of an algebra is referred to as the *length of the algebra*.

Following Paz (1984) we consider the question when the length of a matrix subalgebra can be bounded by a linear function in the order of matrices. We provide linear upper bounds for the lengths of upper-triangular and triangularizable matrix subalgebras over arbitrary fields. We will also present our results on the lengths of commutative algebras.