

Markova, O. V.**On the length of the algebra of upper-triangular matrices.** (English. Russian original)[Zbl 1140.16306](#)

Russ. Math. Surv. 60, No. 5, 984-985 (2005); translation from Usp. Mat. Nauk 60, No. 5, 177-178 (2005).

From the introduction: The problem of calculating the length of the full matrix algebra as a function of the order of matrices was first posed by *A. Paz* [in *Linear Multilinear Algebra* 15, 161-170 (1984; [Zbl 0536.15007](#))] and still remains open. In the present paper we prove that the length of the algebra of upper-triangular matrices of order n and of certain subalgebras of it is equal to $n - 1$, obtain exact upper and lower estimates of the length of direct sums of finite-dimensional algebras, and obtain upper and lower estimates of the length of block-triangular matrix subalgebras.

MSC:**16S50** Endomorphism rings; matrix rings**16P10** Finite rings and finite-dimensional associative algebras**15A30** Algebraic systems of matrices**16R20** Semiprime p.i. rings, rings embeddable in matrices over commutative rings**16S15** Finite generation, finite presentability, normal forms (diamond lemma, term-rewriting)Cited in **6** Documents**Keywords:**

lengths of matrix algebras; algebras of upper-triangular matrices; lengths of direct sums of finite-dimensional algebras

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