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basal units

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The set of all $n \times n$ matrices over a skew field forms an n^2 -dimensional associative algebra, for the basis of which one can take the *basal units*. A basal unit of the algebra has all components zeroes except only one which is 1.

E.g.

$$\begin{pmatrix} 0 & 0 & 0 \\ 0 & 0 & 1 \\ 0 & 0 & 0 \end{pmatrix}$$

is a basal unit of the algebra of 3×3 matrices.

References

- [1] L. E. DICKSON: *Algebras and their arithmetics*. Dover Publications, Inc. New York (1923; second edition 1960).