COFACTOR MATRIX THEORY

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The Adjugate, or "classical adjoint", of a square matrix is constructed by a curiously elaborate routine: striking out the row and the column of a generic entry of a $(k+1) \times (k+1)$ matrix, replacing the entry by the Determinant of the $k \times k$ matrix thus revealed, then moving the resulting number to its mirror image in the diagonal, and finally either changing its sign or not. Since the determinant is itself derived from a $k \times k$ matrix, the stage would appear to be set for an induction. In this talk we try to ride two horses: on the one hand to provide this induction, and on the other to embed it a more abstract, axiomatic, environment.

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