

VARIATIONS ON ROW ECHELON FORM

It turns out not all texts agree on just what is enough for a matrix to be in row echelon form. The definition I gave in lecture was not the same as in the book.

So let's use the book's terminology, and adopt another term for what I was talking about.

By a *zero row* I mean a row with all zeros in it.

Definition 1. A matrix is in *weak row echelon form* if any zero rows are at the bottom, and if in the other rows the leading nonzero terms, called *pivots*, move to the right as one moves down.

Definition 2. A matrix is in *row echelon form* if it is in weak row echelon form and every pivot equals 1. The pivots are also called *lead 1's*.

Definition 3. A matrix is in *reduced row echelon form* if it is in row echelon form and all the numbers above any pivot are zero.

In doing the homework follows the terminology in the book unless I specifically make an exception.

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