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Subject: row operations

As promised in class, here is an outline of the material on row operations that you should know. As it turns out, there's not too much extra reading here --- we covered most of it in class. What you need to know is:

section 3.1 (all of it)

section 3.2, omitting the proof of Theorem 3.6. The important results that we didn't cover in class are Corollary 2 on page 158 (which gives a row-operations based proof of the fact that the rank of a matrix and the rank of its transpose are equal) and Theorem 3.7 (which is pretty straightforward).

section 3.3 up through page 175. The important result here which we did not cover in class, but which should be familiar to you from earlier linear algebra classes, is that if you have a solution  $s$  to a system of linear equations  $Ax=b$  then the set of all solutions is  $\{s+k : \text{where } Ak=0\}$ .

section 3.4 omitting the section "an interpretation of reduced row echelon form" on pp190--194 and omitting the proof of Theorem 3.14. The important result here is Theorem 3.15, which tells you how to find all solutions to a system of linear equations  $Ax=b$  if the coefficient matrix  $A$  is in reduced row-echelon form.

I've posted the homework which is due Thursday on the class website, and will post a handout on determinants shortly. As discussed in class, you can pick up your midterms and midterm solutions from my office, or I will bring them to class on Tuesday.

Yours,  
Tom