DATA 605 - Discussion 2

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## Exercise

Doing the computations by hand, find the determinant of the matrix A.

## Solution

First, I will reduce the matrix as follows:

Swap matrix rows:

Cancel leading coefficient in row by performing

Cancel leading coefficient in row by performing

Cancel leading coefficient in row by performing

Cancel leading coefficient in row by performing

Cancel leading coefficient in row by performing

Since the determinant of the matrix equals the diagonal product of the matrix:

Now, since I have interchanged two rows, it negate the determinant, therefore multiply the result by .

## Solving in R

* Defining Matrix

A <- matrix(data = c(1,0,1,1,  
 2,2,-1,1,  
 2,1,3,0,  
 1,1,0,1), ncol=4, byrow=TRUE)

* Finding determinant in R

det(A)

## [1] 4