1. Let A = , B =

and C =****

Compute:

(a) AC+ BC (It is much faster if you use the distributive law for matrices first.)

(b) 2A - 3A

(c) Perform the Boolean Product operation () on the following zero-one matrices.



2. We know that matrix algebra behaves similar to (but not exactly the same as) regular algebra. The statements in parts a and b illustrate a couple of the differences between the two structures.

Let A and B be **arbitrary** n x n matrices whose entries are real numbers.

1. Use basic matrix laws **only** to expand (A + B)2. Explain all steps.

(b) Is (A - B)(A + B) = A2 – B2 ? Explain as you did in part (a).