CHE 1411L Week 10 Lab Assignment

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Problem 7.7

Use MATLAB to calculate the determinant of matrices A and B above. Does an inverse exist for each matrix? Check your results by calculating the determinants of matrices A and B by hand.

```
A = [1 3 0; 2 1 2; 4 1 3]
B = [0 1 1; 1 3 3; 2 0 3]

A_det = det(A)
B_det = det(B)

C = inv(A)
D = inv(B)
```

```
A =

     1     3     0
     2     1     2
     4     1     3


B =

     0     1     1
     1     3     3
     2     0     3


A_det =

     7


B_det =

    -3


C =

    0.1429   -1.2857    0.8571
    0.2857    0.4286   -0.2857
```

```
   -0.2857    1.5714   -0.7143
```

```
D =

   -3.0000    1.0000         0
   -1.0000    0.6667   -0.3333
    2.0000   -0.6667    0.3333
```

Problem 7.8

Use MATLAB to show that AA^-1 = A^-1A for matrices A and B above.

```
A_inA = A*C
inA_A = C*A
```

```
A_inA =

    1.0000         0         0
         0    1.0000   -0.0000
         0    0.0000    1.0000
```

```
inA_A =

    1.0000    0.0000         0
         0    1.0000         0
         0         0    1.0000
```

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