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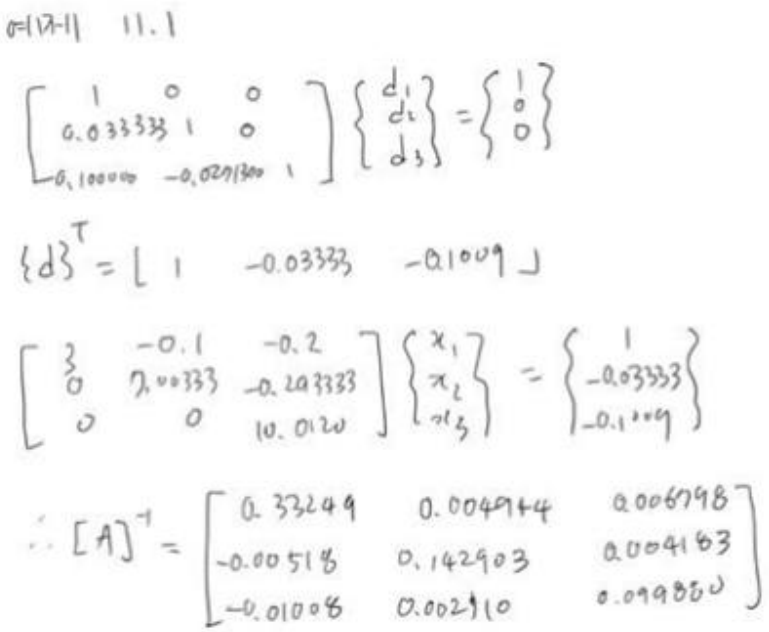
example 11.1



example 11.2

```
>> k = [150 -100 0; -100 150 -50; 0 -50 50]
k =

   150  -100     0
  -100   150   -50
     0   -50    50

>> KI = inv(k)
KI =

   0.020000   0.020000   0.020000
   0.020000   0.030000   0.030000
   0.020000   0.030000   0.050000
```

example 11.4

```
>> A = [ 1 1/2 1/3; 1 2/3 1/2; 1 3/4 3/5];
>> norm(A,inf)
ans =  2.3500
>> cond(A,inf)
ans =  451.20
>> cond(A,'fro')
ans =  368.09
>> cond(A)
ans =  366.35
```

11.3 case study

```
>> format short g
>> A = [225 0 -25 0
0 175 0 -125
-225 0 275 -50
0 -25 -250 275];
>> AI=inv(A)
AI =

  0.0049962  1.5326e-05  0.00055172  0.00010728
  0.0034483  0.0062069  0.0034483  0.0034483
  0.0049655  0.00013793  0.0049655  0.00096552
  0.0048276  0.00068966  0.0048276  0.0048276

>> b = [1400 100 2000 0]';
>> c = AI*b
c =

  8.0996
  12.345
  16.897
  16.483

>> AI(2,1)*(-1000)+AI(2,3)*(-2000)
ans = -10.345
```

## 연습문제 11.1

```
>> A = [10 2 -1;-3 -6 2;1 1 5];
>> AI = [0.110727 0.038062 0.00692;
-0.058824 -0.176471 0.058824;
-0.010381 0.027682 0.186851];
>> A*AI
ans =

  1  -4e-06  -3e-06
  1e-06  1  -2e-06
  -2e-06  1e-06  1
```

## 연습문제 11.6

```
>> A = [8/(-10) 2/(-10) 1;1 1/(-9) 3/(-9);1 -1/15 6/15]
A =

  -0.8  -0.2  1
  1  -0.11111  -0.33333
  1  -0.066667  0.4

>> norm(A,'fro')
ans = 1.992
>> norm(A,1)
ans = 2.8
>> norm(A,inf)
ans = 2
```

## 연습문제 11.8

```
>> A = [1 4 9 16;4 9 16 25;9 16 25 36;16 25 36 49];
>> cond(A)
ans = 6.7698e+16
```

```
>> cond(A,inf)
warning: matrix singular to machine precision, rcond = 4.07522e
warning: called from
    cond at line 75 column 12
ans = 2.4539e+17
```

연습문제 11.9

```
>> A = [16 4 1;4 2 1;49 7 1];
>>
>> cond(A,inf)
ans = 323
```

```
>> A = [16 4 1;4 2 1;49 7 1];
>> cond(A)
ans = 216.13
>> cond(A,'fro')
ans = 217.48
```