

CISC-271 Assignment 1

Example from assignment

```
A =  
    1    2    3  
    4    5    6  
    7    8    9  
|  
>> b  
  
b =  
    3  
    6  
    9  
  
>> [Bspace, Nspace]=a1(A,b)  
  
Bspace =  
   -1  
    2  
    0  
  
Nspace =  
    1  
   -2  
    1
```

Singular Matrix

```
>> A=[2 6; 1 3]  
  
A =  
    2    6  
    1    3  
  
>> b=[6;3;]  
  
b =  
    6  
    3  
  
>> [Bspace, Nspace]=a1(A,b)  
  
Bspace =  
    3  
    0  
  
Nspace =  
   -3  
    1
```

Full Rank Matrix

```
>> A=[1 0 2; 2 1 0; 3 2 1]

A =

     1     0     2
     2     1     0
     3     2     1

>> b=[5;7;13]

b =

     5
     7
    13

>> [Bspace, Nspace]=a1(A,b)

Bspace =

     2.3333
     2.3333
     1.3333

Nspace =

Empty matrix: 3-by-0
```

10 by 10 Matrix

```
>> A=reshape(1:100,10,10)

A =

     1    11    21    31    41    51    61    71    81    91
     2    12    22    32    42    52    62    72    82    92
     3    13    23    33    43    53    63    73    83    93
     4    14    24    34    44    54    64    74    84    94
     5    15    25    35    45    55    65    75    85    95
     6    16    26    36    46    56    66    76    86    96
     7    17    27    37    47    57    67    77    87    97
     8    18    28    38    48    58    68    78    88    98
     9    19    29    39    49    59    69    79    89    99
    10    20    30    40    50    60    70    80    90   100

>> b=[1;2;3;4;5;6;7;8;9;10]

b =

     1
     2
     3
     4
     5
     6
     7
     8
     9
    10

>> [Bspace, Nspace]=a1(A,b)

Bspace =

     1
     0
     0
     0
     0
     0
     0
     0
     0
     0

Nspace =

     1     2     3     4     5     6     7     8
    -2    -3    -4    -5    -6    -7    -8    -9
     1     0     0     0     0     0     0     0
     0     1     0     0     0     0     0     0
     0     0     1     0     0     0     0     0
     0     0     0     1     0     0     0     0
     0     0     0     0     1     0     0     0
     0     0     0     0     0     1     0     0
     0     0     0     0     0     0     1     0
     0     0     0     0     0     0     0     1
```