
```

clc;
clear all;
close all;

% Bases of four fundamental vector spaces of matrix A.

A=[1,2,3;2,-1,1];

% Row Reduced Echelon Form
[R, pivot] = rref(A)

% Rank
rank = length(pivot)

% basis of the column space of A
columnsp = A(:,pivot)

% basis of the nullspace of A
nullsp = null(A,'r')

% basis of the row space of A
rowsp = R(1:rank,:)'

% basis of the left nullspace of A
leftnullsp = null(A','r')

R =

    1    0    1
    0    1    1

pivot =

    1    2

rank =

    2

columnsp =

    1    2
    2   -1

nullsp =

   -1

```

-1
 1

`rowsp =`

$1 \quad 0$
 $0 \quad 1$
 $1 \quad 1$

`leftnullsp =`

2×0 empty double matrix

Published with MATLAB® R2021b