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Mechatronics

Eng 281

16/ENG05/033

*
* Clear - to clear variables in workspace.
* clc – to clear variables in command window.
* CODES:
* commandwindow
* clear
* clc
* A=[2 3 7 9 4;3 7 9 12 5;4 8 5 6 9;5 9 2 4 5;6 2 3 7 8]
* determinant=det(A)
* transpose=transpose(A)
* inverse=inv(A)
* sym(inverse)

OUTPUTS:

A =

 2 3 7 9 4

 3 7 9 12 5

 4 8 5 6 9

 5 9 2 4 5

 6 2 3 7 8

determinant =

 -765.0000

tran =

 2 3 4 5 6

 3 7 8 9 2

 7 9 5 2 3

 9 12 6 4 7

 4 5 9 5 8

inverse =

 1.8915 -1.4026 -0.3124 0.7843 -0.2078

 -0.4379 0.3268 0.0523 -0.0392 -0.0196

 2.5725 -1.8392 -0.0863 0.7647 -0.5176

 -1.8876 1.4654 0.0105 -0.6078 0.3961

 -0.6222 0.3778 0.2444 -0.3333 0.1333

inverse =

[ 1447/765, -1073/765, -239/765, 40/51, -53/255]

[ -67/153, 50/153, 8/153, -2/51, -1/51]

[ 656/255, -469/255, -22/255, 13/17, -44/85]

[ -1444/765, 1121/765, 8/765, -31/51, 101/255]

[ -28/45, 17/45, 11/45, -1/3, 2/15]

* CODES:
* commandwindow
* clear
* clc
* A=[0 10 4 -2;-3 -17 1 2;1 1 1 0;8 -34 16 -10]
* B=[-4;2;6;4]
* invar= inv(A)
* Answer=invar\*B
* w=Answer(1,1)
* x=Answer(2,1)
* y=Answer(3,1)
* z=Answer(4,1)

OUTPUTS:

A =

 0 10 4 -2

 -3 -17 1 2

 1 1 1 0

 8 -34 16 -10

B =

 -4

 2

 6

 4

invar =

 -0.1786 -0.1020 0.5714 0.0153

 0.0357 -0.0153 0.0357 -0.0102

 0.1429 0.1173 0.3929 -0.0051

 -0.0357 0.1582 0.9643 -0.0612

Answer =

 4.0000

 -0.0000

 2.0000

 6.0000

w =

 4

x =

 -9.7145e-17

y =

 2.0000

z =

 6.0000