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### 1. Lecture 2 in MATLAB

Picking out elements of a matrix, review

1/1 point (graded)

Which of the following MATLAB commands picks out the 3rd column of a matrix  $\mathbf{A}$ ?



#### Solution:

The correct answer is A(:,3). This notation means all entries of the third column.

Check the MATLAB documentation when you forget things like this!

Submit You have used 1 of 3 attempts

**1** Answers are displayed within the problem

# Find the nullspace of the matrix (External resource)

(1.0 points possible)

# Nullspace problem.

The matrix **B** has the reduced row echelon form given below.

$$\mathbf{rref}(\mathbf{B}) = 
 \begin{pmatrix}
 0 & 1 & 3 & 0 & 0 & 5 \\
 0 & 0 & 0 & 1 & 0 & 7 \\
 0 & 0 & 0 & 0 & 1 & 9 \\
 0 & 0 & 0 & 0 & 0 & 0
 \end{pmatrix}$$

Without using the MATLAB command null, find a basis for the nullspace of  $\bf B$ . Create a matrix  $\bf N$  whose columns are the vectors in that basis.

## Your Script

Save C Reset MATLAB Documentation (https://www.mathworks.com/help/)

```
B = [0 1 3 0 0 5; 0 0 0 1 0 7; 0 0 0 0 0 1 9; 0 0 0 0 0 0];

Create a matrix N whose columns are a basis for the nullspace of B.

N = [1 0 0 0 0 0; 0 2 1 0 0 0; 0 0 0 7 9 -1]';

B * N
```

► Run Script ② ()

### **Assessment: Correct**

Submit ? ()

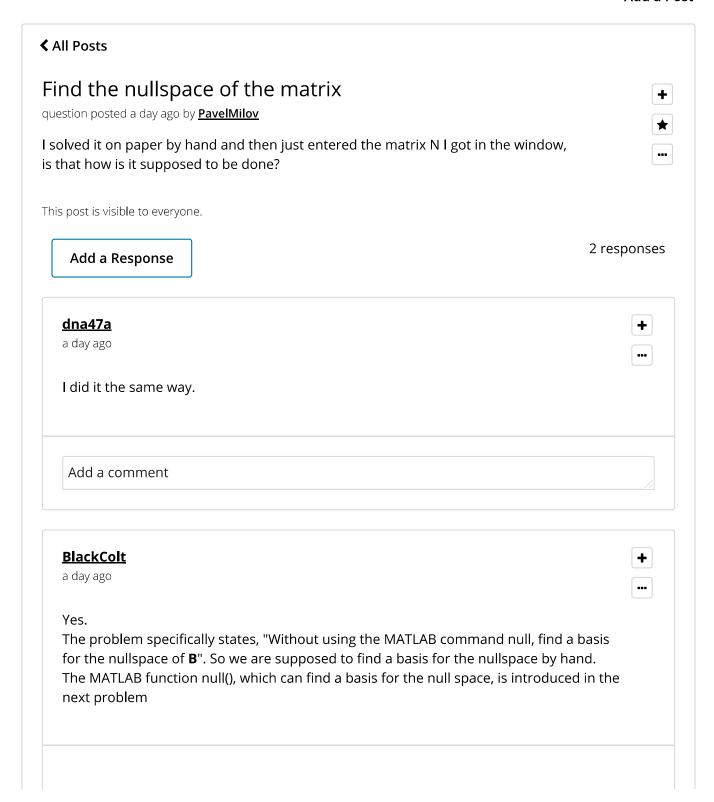
- **⊘** Check that null is not in solution
- ✓ Check size of N
- ✓ Check rref(B)\*N is zero matrix
- Check that columns of N form a basis for nullspace of B

#### 1. Lecture 2 in MATLAB

Topic: Unit 1: Linear Algebra, Part 1 / 1. Lecture 2 in MATLAB

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