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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 **A**?

☐  $A(3,3)$

☐  $A(3,:)$

☒  $A(:,3)$  ✓

☐  $A(:, :)$

#### 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

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.

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

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

## Your Script

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

```
1 B = [0 1 3 0 0 5; 0 0 0 1 0 7; 0 0 0 0 1 9; 0 0 0 0 0 0];
2 % Create a matrix N whose columns are a basis for the nullspace of B.
3 N = [1 0 0 0 0 0; 0 2 1 0 0 0; 0 0 0 7 9 -1]';
4 B * N
```

 Run Script

 ()

Assessment: Correct

Submit

 ()

 Check that null is not in solution

 Check size of N

 Check  $\text{rref}(\mathbf{B}) * \mathbf{N}$  is zero matrix

 Check that columns of N form a basis for nullspace of  
B

# 1. Lecture 2 in MATLAB

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## Find the nullspace of the matrix

question posted a day ago by [PavelMilov](#)

I solved it on paper by hand and then just entered the matrix N I got in the window, is that how is it supposed to be done?



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2 responses

**dna47a**

a day ago



I did it the same way.

**BlackColt**

a day ago



Yes.

The problem specifically states, "Without using the MATLAB command null, find a basis for the nullspace of **B**". So we are supposed to find a basis for the nullspace by hand.

The MATLAB function null(), which can find a basis for the null space, is introduced in the next problem

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