

## 21 How to Find independent Columns of Matrix $AB$

You may use this to find a basis for the row space:

type	<code>[R2, pivcol] = rref(AB')</code>
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This command will provide you  $\text{rref}(AB')$  and pivot columns of  $AB'$  which are row vectors of  $AB$ . The columns of  $AB$  that are independent and form a basis for the column space.

Then enter your basis vectors as:

type	<code>% ABU1 = your first row vector of basis of space of AB</code>
type	<code>% ABU2 = your second row vector of basis of space of AB</code>
type	<code>% ABU3 = your third row vector of basis of space of AB</code>

Note that these are Rows of  $AB$  that form a basis for row space of  $AB$ .

You Can use MATLAB to give you a matrix composed of the independent rows of  $AB$

type	<code><math>C = AB'</math></code>
type	<code><math>UAB1 = C(:, \text{pivcol})</math></code>