Combining Tables and Matrixs Together

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Generate Some Tables and Matrixes for Combination

```
close all;

% Generate Table 1
ar_fl_abc1 = [0.4 0.1 0.25 0.3 0.4];
ar_fl_abc2 = [0.4 0.1 0.2 0.3 0.4];
number1 = '123';
number2 = '456';
mt_data_a = [ar_fl_abc1' ar_fl_abc2'];

tb_test_a = array2table(mt_data_a);
cl_col_names_a = {['col' num2str(number1)], ['col' num2str(number2)]};
cl_row_names_a = strcat('rowA=', string((1:size(mt_data_a,1))));

tb_test_a.Properties.VariableNames = cl_col_names_a;
tb_test_a.Properties.RowNames = cl_row_names_a;
disp(tb_test_a);
```

	col123	col456
rowA=1	0.4	0.4
rowA=2	0.1	0.1
rowA=3	0.25	0.2
rowA=4	0.3	0.3
rowA=5	0.4	0.4

```
% Generate Table 2
rng(123);
ar_fl_abc3 = rand(size(ar_fl_abc1));
ar_fl_abc4 = rand(size(ar_fl_abc1));
ar_fl_abc5 = rand(size(ar_fl_abc1));

mt_data_b = [ar_fl_abc3' ar_fl_abc4' ar_fl_abc5'];

tb_test_b = array2table(mt_data_b);
cl_col_names_b = {['col' num2str(33)], ['col' num2str(44)], ['col' num2str(55)]};
cl_row_names_b = strcat('rowB=', string((1:size(mt_data_a,1))));

tb_test_b.Properties.VariableNames = cl_col_names_b;
tb_test_b.Properties.RowNames = cl_row_names_b;
disp(tb_test_b);
```

	col33	col44	col55
rowB=1	0.69647	0.42311	0.34318
rowB=2	0.28614	0.98076	0.72905
rowB=3	0.22685	0.68483	0.43857
rowB=4	0.55131	0.48093	0.059678

```
rowB=5    0.71947    0.39212    0.39804
```

Combine Tables Together Stack Columns

Tables with the same number of rows, add more columns with named variables

```
% a and b must have the same row names
tb_test_b_withArownames = tb_test_b;
tb_test_b_withArownames.Properties.RowNames = tb_test_a.Properties.RowNames;
tb_ab_col_stacked = [tb_test_a tb_test_b_withArownames];

display(tb_ab_col_stacked);
```

tb_ab_col_stacked = 5×5 table

	col123	col456	col33	col44	col55
1 rowA=1	0.4000	0.4000	0.6965	0.4231	0.3432
2 rowA=2	0.1000	0.1000	0.2861	0.9808	0.7290
3 rowA=3	0.2500	0.2000	0.2269	0.6848	0.4386
4 rowA=4	0.3000	0.3000	0.5513	0.4809	0.0597
5 rowA=5	0.4000	0.4000	0.7195	0.3921	0.3980

Combine Tables Together Stack Rows

Tables with the same number of columns, dd more rows variables

```
% Select only 2 columns to match table a column count
tb_test_b_subset = tb_test_b(:,1:2);

% Make Column Names consistent
tb_test_b_subset.Properties.VariableNames = cl_col_names_a;

% Reset Row Names, can not have identical row names
tb_test_a.Properties.RowNames = strcat('row=', string((1:size(mt_data_a,1))));
tb_test_b_subset.Properties.RowNames = ...
    strcat('row=', string(((size(mt_data_a,1)+1):(size(mt_data_a,1)+size(tb_test_b_subset,1)))))
% tb_test_b_subset.Properties.RowNames =

% Stack Rows
tb_ab_row_stacked = [tb_test_a; tb_test_b_subset];

display(tb_ab_row_stacked);
```

tb_ab_row_stacked = 10×2 table

	col123	col456
1 row=1	0.4000	0.4000
2 row=2	0.1000	0.1000
3 row=3	0.2500	0.2000
4 row=4	0.3000	0.3000

	col123	col456
5 row=5	0.4000	0.4000
6 row=6	0.6965	0.4231
7 row=7	0.2861	0.9808
8 row=8	0.2269	0.6848
9 row=9	0.5513	0.4809
10 row=10	0.7195	0.3921

Combine Tables Together Stack Rows

Tables with the same number of columns, dd more rows variables

```
% Select only 2 columns to match table a column count
tb_test_b_subset = tb_test_b(:,1:2);

% Make Column Names consistent
tb_test_b_subset.Properties.VariableNames = cl_col_names_a;

% Reset Row Names, can not have identical row names
tb_test_a.Properties.RowNames = strcat('row=', string((1:size(mt_data_a,1))));
tb_test_b_subset.Properties.RowNames = ...
    strcat('row=', string(((size(mt_data_a,1)+1):(size(mt_data_a,1)+size(tb_test_b_subset,1)))))
% tb_test_b_subset.Properties.RowNames =

% Stack Rows
tb_ab_row_stacked = [tb_test_a; tb_test_b_subset];

display(tb_ab_row_stacked);
```

tb_ab_row_stacked = 10×2 table

	col123	col456
1 row=1	0.4000	0.4000
2 row=2	0.1000	0.1000
3 row=3	0.2500	0.2000
4 row=4	0.3000	0.3000
5 row=5	0.4000	0.4000
6 row=6	0.6965	0.4231
7 row=7	0.2861	0.9808
8 row=8	0.2269	0.6848
9 row=9	0.5513	0.4809
10 row=10	0.7195	0.3921