All Possible Combinations of Multiple Arrays

back to Fan's Intro Math for Econ, Matlab Examples, or Dynamic Asset Repositories

Given Several Arrays of Possibly different Length in Container, all Possible combinations

```
param_tstar_map = containers.Map('KeyType','char', 'ValueType','any');
param_tstar_map('a') = linspace(1, 5, 5);
param_tstar_map('b') = linspace(0.87, 0.97, 6);
param_tstar_map('c') = linspace(0, 0.5, 10);

cl_st_param_keys = {'a','c'};
cl_ar_param_subset_values = values(param_tstar_map, {'a','c'});

cl_mt_all = cl_ar_param_subset_values;
[cl_mt_all{:}] = ndgrid(cl_ar_param_subset_values{:});
mt_param_vals_combi = cell2mat(cellfun(@(m) m(:), cl_mt_all, 'uni', 0));

tb_all_combi = array2table(mt_param_vals_combi, 'VariableNames', cl_st_param_keys);

disp(tb_all_combi);
```

```
    a      c
    _    _______

    1          0
    2          0
    3          0
    4          0
    5          0
    1   0.055556
    2   0.055556
    3   0.055556
    4   0.055556
    5   0.055556
    1    0.11111
    2    0.11111
    3    0.11111
    4    0.11111
    5    0.11111
    1    0.16667
    2    0.16667
    3    0.16667
    4    0.16667
    5    0.16667
    1    0.22222
    2    0.22222
    3    0.22222
    4    0.22222
    5    0.22222
    1    0.27778
    2    0.27778
    3    0.27778
    4    0.27778
    5    0.27778
    1    0.33333
    2    0.33333
    3    0.33333
```

```
4     0.33333
5     0.33333
1     0.38889
2     0.38889
3     0.38889
4     0.38889
5     0.38889
1     0.44444
2     0.44444
3     0.44444
4     0.44444
5     0.44444
1         0.5
2         0.5
3         0.5
4         0.5
5         0.5
```