

Matlab Join Tables by Keys

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Left Join Two Tables Together

There is a table with simulation results, and a table with data information. Join together with common keys.

First generate the simulation table.

```
% Make N by 2 matrix of fieldname + value type
mt_st_variable_names_types = [...
    ["year", "double"];["category", "string"];["rho", "double"]; ...
    ["numberWorkersSimu", "logical"]; ["meanWageSimu", "double"]];
% Make table using fieldnames & value types from above
tb_solution = table('Size',[0,size(mt_st_variable_names_types,1)],...
    'VariableNames', mt_st_variable_names_types(:,1),...
    'VariableTypes', mt_st_variable_names_types(:,2));
% Table with data to be merged
tb_solution = [tb_solution;...
    {1, 'C001', 0.50, 5.5, 6.6}; {2, 'C002', 0.50, 3.3, 4.4}; ...
    {1, 'C001', 0.25, 2.5, 3.6}; {2, 'C002', 0.25, 0.3, 1.4}];
disp(tb_solution);
```

year	category	rho	numberWorkersSimu	meanWageSimu
1	"C001"	0.5	5.5	6.6
2	"C002"	0.5	3.3	4.4
1	"C001"	0.25	2.5	3.6
2	"C002"	0.25	0.3	1.4

Second generate the data table.

```
% Make N by 2 matrix of fieldname + value type
mt_st_variable_names_types = [...
    ["year", "double"];["category", "string"]; ...
    ["numberWorkersData", "logical"]; ["meanWageData", "double"]];
% Make table using fieldnames & value types from above
tb_data = table('Size',[0,size(mt_st_variable_names_types,1)],...
    'VariableNames', mt_st_variable_names_types(:,1),...
    'VariableTypes', mt_st_variable_names_types(:,2));
% Table with data to be merged
tb_data = [tb_data; {1, 'C001', 1, 2}; {2, 'C002', 2, 3}];
disp(tb_data);
```

year	category	numberWorkersData	meanWageData
1	"C001"	1	2
2	"C002"	2	3

Third merge the tables together with left-join, that will match by all variables with the same name.

```
% left-join tables together
tb_solu_joined_data = join(tb_solution, tb_data);
```

```
% Rescale a variable
```

```
tb_solu_joined_data[:, "numberWorkersData"] = tb_solu_joined_data[:, "numberWorkersData"]*10;
```

```
% Display
```

```
disp(tb_solu_joined_data);
```

year	category	rho	numberWorkersSimu	meanWageSimu	numberWorkersData	meanWageData
1	"C001"	0.5	5.5	6.6	10	2
2	"C002"	0.5	3.3	4.4	20	3
1	"C001"	0.25	2.5	3.6	10	2
2	"C002"	0.25	0.3	1.4	20	3