Container Map Basics

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Container Integer Keys

Given some matrix, I want to store matrix column names as well as labels for what each row and column correspond to. Achieve this using a cell array of container maps. Cell dimensions correspond to the first, second, etc dimensions, any dimension specific information can be stored in this fashion.

Can access information asssociated with the label value of the row values:

```
% Define Matrix Row and Column and additional dimension information
cl_mp_datasetdesc = {};
cl_mp_datasetdesc{1} = containers.Map({'dim', 'name', 'labval'}, {1, 'kids', [0,1,2,3]});
cl_mp_datasetdesc{2} = containers.Map({'dim', 'name', 'labval'}, {2, 'age', [18,19,20]});
% get variable labels for the first dimension (rows)
disp([...
    string(['dim 1 var name:' cl_mp_datasetdesc{1}('name') ]), ...
    string(['dim 2 var name:' cl_mp_datasetdesc{2}('name') ])...
    ]);
```

```
    "dim 1 var name:kids"    "dim 2 var name:age"
```

Is Key In Container

```
param_map_a = containers.Map('KeyType','char', 'ValueType','any');
param_map_a('fl_b_bd') = -3;
param_map_a('fl_w_max') = 50;
param_map_a('fl_kp_min') = 0;
param_map_a('it_w_i') = 100;

disp([...
    string(['has it_w_i as key? ' num2str(isKey(param_map_a, 'it_w_i'))]), ...
    string(['has it_w_i1 as key? ' num2str(isKey(param_map_a, 'it_w_i1'))]) ...
    ]);
```

```
    "has it_w_i as key? 1"    "has it_w_i1 as key? 0"
```

Container Key Loop

Generate new container key within loop dynamically

```
param_map_a = containers.Map('KeyType', 'char', 'ValueType','any');

rng(123);
for st_cur = ["abc", "efg", "qqq"]

    if (strcmp(st_cur, "abc"))
       data = rand([1,1]);
    elseif (strcmp(st_cur, "efg"))
       data = 123.123;
```

```
    elseif (strcmp(st_cur, "qqq"))
       data = -123;
    end

    % common function
    fl_sh_0p1pc_j = data*2 + 1;
    fl_sh_5pc_j = data/2 - 1;

    % generate map keys
    st_key_sh_0p1pc_j = strjoin([st_cur, 'sh_0p1pc_j'], "_");
    st_key_sh_5pc_j = strjoin([st_cur, 'sh_5pc_j'], "_");

    % store
    param_map_a(st_key_sh_0p1pc_j) = fl_sh_0p1pc_j;
    param_map_a(st_key_sh_5pc_j) = fl_sh_5pc_j;

end

disp([...
    string(['param_map_a.keys:' param_map_a.keys]), ...
    string(['param_map_a.values:' string(param_map_a.values)]) ...
    ]);
```

```
  Columns 1 through 7

    "param_map_a.keys:"    "abc_sh_0p1pc_j"    "abc_sh_5pc_j"    "efg_sh_0p1pc_j"    "efg_sh_5pc_j"    "qqq_sh_0p1pc

  Columns 8 through 14

    "param_map_a.values:"    "2.3929"    "-0.65177"    "247.246"    "60.5615"    "-245"    "-62.5"
```