Dynamically Generate M Files

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Dynamically Generate and Run M Files

Use-case: There is a wage equation that provides wage for college or non-college educated indivdiuals. The parameter for college and non-college educated distinguishes them with values 2 and 1. Initially, model was designed to be solved jointly for college and non-college educated, so the education grid as both values 1 and 2. In modified code version, only one education group solved at once. The education grid is always length 1. This wage education is called by many functions, so do not want to change the parameter structure. Instead, depending on whether low or high education group is been solved for, regenerate this function with hard-coded values for education groups.

see this and this.

First cell array to store function code lines.

```
cl_code = {'function F=fsi_test_wage(j,educ)', ...
  '% both', ...
  '%it_edu_grid_type = 1;', ...
  '% non-college only', ...
  '%it_edu_grid_type = 2;', ...
  '% college only', ...
  'it_edu_grid_type = 3;', ...
  'if (it_edu_grid_type == 1 || it_edu_grid_type == 2)', ...
  '    % no changes needed when both, or low education type', ...
  '    % low type = 1, educ = 1', ...
  '    F = fsi_test_wage_equa(j,educ);', ...
  'elseif (it_edu_grid_type == 3)', ...
  '    % problem high type, educ should equal 2, but solving for high edu only, educ=1', ...
  '    F = fsi_test_wage_equa(j,1);', ...
  'end', ...
  'end'};
```

Second, get current path.

```
% Check folder to use
spn_current_mlx_path = matlab.desktop.editor.getActiveFilename;
[spt_filepath, snm_name, st_ext] = fileparts(spn_current_mlx_path);
disp(['spt_filepath=' spt_filepath]);
```

```
spt_filepath=G:\repos\M4Econ\function\anonymous
```

```
spt_filepath = fullfile(spt_filepath, '_file');
if ~exist(spt_filepath, 'dir')
    mkdir(spt_filepath);
end
disp(['spt_filepath:' spt_filepath]);
```

```
spt_filepath:G:\repos\M4Econ\function\anonymous\_file
```

Third, generate file.

```
% Start file
spn_path_file = fullfile(spt_filepath, 'fsi_test_wage.m');
f = fopen(spn_path_file, 'w');
fprintf(f, '%s\n', cl_code{:});
fclose(f);
tmpfile;
```

Third, add functions in subfolder to path.

```
% Add to path to matlab path
addpath(spt_filepath);
```

Call and use function

```
wage = fsi_test_wage(19, 1);
disp(['wage:' num2str(wage)]);
```

```
wage:0.54154
```