Matlab Graph Line Scatter Plot, Multiple Lines, Axies Lines, 45 Degree Line Examples

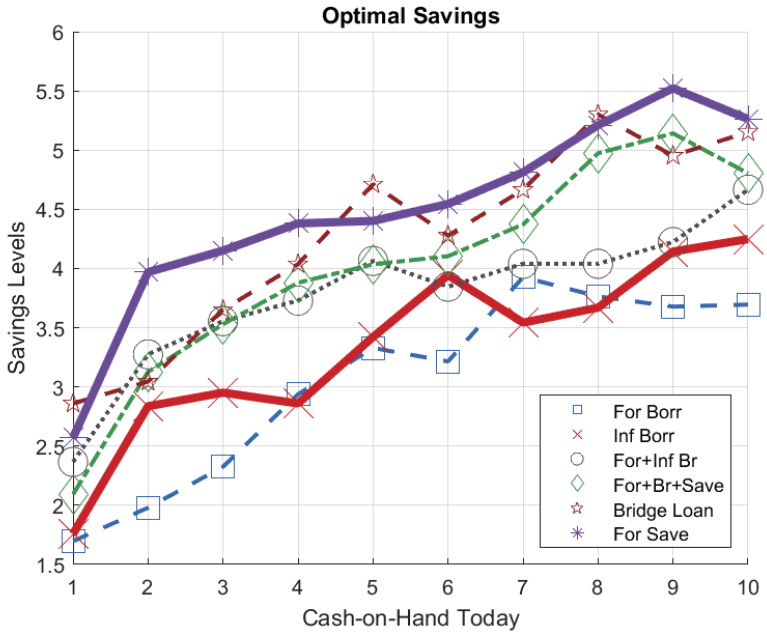
back to Fan's Reusable Matlab Repository or Dynamic Asset Repository.

Six lines Plot

Colors from optimal colors. Generate A line plot with multiple lines using safe colors, with differening shapes. Figures include lines as well as scatter overlayed jointly.

```
close all
figure();
hold on;

blue = [57 106 177]./255;
red = [204 37 41]./255;
black = [83 81 84]./255;
green = [62 150 81]./255;
brown = [146 36 40]./255;
purple = [107 76 154]./255;
cl_colors = {blue, red, black, ...
             green, brown, purple};
cl_legend = {'For Borr', 'Inf Borr', 'For+Inf Br', 'For+Br+Save', 'Bridge Loan', 'For Save'};
cl_scatter_shapes = {'s','x','o','d','p','*'};
cl_linestyle = {'--','-',':','-.','--','-'};
it_sca_bs = 20;
cl_scatter_csizes = {10*it_sca_bs, 20*it_sca_bs, 10*it_sca_bs, 10*it_sca_bs, 5*it_sca_bs, 8*it_
it_line_bs = 2;
cl_line_csizes = {1*it_line_bs, 2*it_line_bs, 1*it_line_bs, 1*it_line_bs, 1*it_line_bs, 2*it_li

it_x_groups_n = length(cl_scatter_csizes);
it_x_n = 10;

% Generate Random Data
rng(123);
mat_y = rand([it_x_n, it_x_groups_n]);
mat_y = mat_y + sqrt(1:it_x_groups_n);
mat_y = mat_y + log(1:it_x_n)';
ar_x = 1:1:it_x_n;

ar_it_graphs_run = 1:6;
it_graph_counter = 0;
ls_chart = [];
for it_fig = ar_it_graphs_run

    % Counter
    it_graph_counter = it_graph_counter + 1;

    % Y Outcome
    ar_y = mat_y(:, it_fig)';

    % Color and Size etc
```

```
    it_csize = cl_scatter_csizes{it_fig};
    ar_color = cl_colors{it_fig};
    st_shape = cl_scatter_shapes{it_fig};
    st_lnsty = cl_linestyle{it_fig};
    st_lnwth = cl_line_csizes{it_fig};

    % plot scatter and include in legend
    ls_chart(it_graph_counter) = scatter(ar_x, ar_y, it_csize, ar_color, st_shape);

    % plot line do not include in legend
    line = plot(ar_x, ar_y);
    line.HandleVisibility = 'off';
    line.Color = ar_color;
    line.LineStyle = st_lnsty;
    line.HandleVisibility = 'off';
    line.LineWidth = st_lnwth;

    % Legend to include
    cl_legend{it_graph_counter} = cl_legend{it_fig};
end

% Legend
legend(ls_chart, cl_legend, 'Location', 'southeast');

% labeling
title('Optimal Savings');
ylabel('Savings Levels');
xlabel('Cash-on-Hand Today');
grid on;
```




```
snapnow;
```

Horizontal and Vertical Lines and 45 Degree

Draw x and y axis, and draw a 45 degree line.

```
figure();

xline0 = xline(0);
xline0.HandleVisibility = 'off';
xline0.Color = red;
xline0.LineStyle = '--';
yline0 = yline(0);
yline0.HandleVisibility = 'off';
yline0.LineWidth = 1;

hline = refline([1 0]);
hline.Color = 'k';
hline.LineStyle = ':';
hline.HandleVisibility = 'off';

snapnow;
grid on;
grid minor;
```