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function plot_mz_policy(pol_pi,MZ,s_start,s_end)
% PLOT_MZ_POLICY - Plots a the learned policy from a maze problem
%
% Written by:
% --
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%
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%
% Please send comments and especially bug reports to the
% above email address.
%
%-----

[sideII,sideJJ]=size(pol_pi);
IIodelims = 0:sideII; IIcents = 1:sideII;
JJodelims = 0:sideJJ; JJcents = 1:sideJJ;

% plot the maze beneath (1==blocked path):
figure; imagesc( JJcents, IIcents, MZ ); colorbar; hold on;

% plot the start/end positions:
plot( s_start(2), s_start(1), 'o', 'MarkerSize', 10, 'MarkerFaceColor', 'g' );
plot( s_end(2), s_end(1), 'o', 'MarkerSize', 10, 'MarkerFaceColor', 'r' );

% fill the vectors:
px = zeros(size(pol_pi)); py = zeros(size(pol_pi));
for ii=1:sideII,
    for jj=1:sideJJ,
        switch pol_pi(ii,jj)
            case 1
                %
                % action = UP
                %
                px(ii,jj) = 0;
                py(ii,jj) = 0.5;
            case 2
                %
                % action = DOWN
                %
                px(ii,jj) = 0;
                py(ii,jj) = -0.5;
            case 3
                %
                % action = RIGHT
                %
                px(ii,jj) = 0.5;
                py(ii,jj) = 0;
            case 4
                %
                % action = LEFT
                %
                px(ii,jj) = -0.5;
                py(ii,jj) = 0;
            case 5
                px(ii,jj) = -0.5;
                py(ii,jj) = +0.5;
            case 6
                px(ii,jj) = +0.5;
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        py(ii,jj) = +0.5;
    case 7
        px(ii,jj) = +0.5;
        py(ii,jj) = -0.5;
    case 8
        px(ii,jj) = -0.5;
        py(ii,jj) = -0.5;
    otherwise
        error('unknown value of pol_pi(ii,jj)');
    end
end
end

% don't draw directional arrows on the forbidden regions:
ind0 = find(MZ(:)==1); px(ind0)=0; py(ind0)=0; px(sideII,sideJJ)=0; py(sideII,sideJJ)=0;

[jjM,iiM]=meshgrid(JJcents,IIcents);

%quiver(iiM,jjM,px,py,0);
quiver(jjM,iiM,px,-py,0);
```