```
function plot_gw_policy(pol_pi,s_start,s_end,wind)
% PLOT_GW_POLICY - Plots a grid world policy
%
% Written by:
% --
% John L. Weatherwax                2008-01-14
%
% email: wax@alum.mit.edu
%
% Please send comments and especially bug reports to the
% above email address.
%
%-----

% compute_delim_mdpts.m
%JWilliamson;

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

% plot the policy in colors beneath:
%figure; imagesc( JJcents, IIcents, pol_pi ); colorbar; hold on;

% plot the wind beneath:
W = repmat( wind, [sideII,1] );
figure; imagesc( JJcents, IIcents, W ); colormap(jet(length(unique(wind)))); colorbar;
hold on;

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

% 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/NORTH
      %
      px(ii,jj) = 0;
      py(ii,jj) = 0.5;
     case 2
      %
      % action = DOWN/SOUTH
      %
      px(ii,jj) = 0;
      py(ii,jj) = -0.5;
     case 3
      %
      % action = RIGHT/EAST
      %
      px(ii,jj) = 0.5;
      py(ii,jj) = 0;
     case 4
      %
      % action = LEFT/WEST
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      %
      px(ii,jj) = -0.5;
      py(ii,jj) = 0;
     case 5
      %
      % action = NorthWest/NW
      %
      px(ii,jj) = -0.5;
      py(ii,jj) = +0.5;
     case 6
      %
      % action = NorthEast/NE
      %
      px(ii,jj) = +0.5;
      py(ii,jj) = +0.5;
     case 7
      %
      % action = SouthEast/SE
      %
      px(ii,jj) = +0.5;
      py(ii,jj) = -0.5;
     case 8
      %
      % action = SouthWest
      %
      px(ii,jj) = -0.5;
      py(ii,jj) = -0.5;
     case 9
      %
      % action = "wind"
      %
      px(ii,jj) = 0.0;
      py(ii,jj) = 0.0;
     otherwise
      error('unknown value of pol_pi(ii,jj)');
    end
  end
end

%[jjM,iiM]=meshgrid(1:sideJJ,1:sideII);
[jjM,iiM]=meshgrid(JJcents,IIcents);

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