```
%%  RELAXATION FUNCTION %%
function  [x,y]  = model(xlim,ylim,step)

    % Weights
    alpha=1; beta=-5; eta=9; gamma=-2;

   % Creating the diagonals
    h = step;
    x = [xlim(1)+h:h:xlim(end)-h]';
    upper = eta*h.^2-gamma*(gamma+x.^2);
    centre = (beta*h./x)-gamma+(h.^2)+((h.^2)./(eta.*x.^2));
    lower = alpha;

    %   Creating the matrix and solution vectors
    A=diag(centre)+diag(lower(1:end-1),-1)+diag(upper(2:end),1);
    b = 3*h^2.*x;
    b(1) = b(1)-lower(1)*ylim(1);
    b(end) = b(end)-upper(end)*ylim(end);

    %   Solution
    y = A\b;

    %   Add back the boundaries
    x = [xlim(1);x;xlim(end)];
    y = [ylim(1);y;ylim(end)];

end
%%%%%%%%%%%%%%%%%%%%

%   Establishing the boundaries
xlim = [-1,3.5];
ylim = [2,-6];

%   Solutions at increasing steps
[x1,y1] = model(xlim,ylim,0.5);
[x2,y2] = model(xlim,ylim,0.25);
[x3,y3] = model(xlim,ylim,0.01);
plot(x1,y1,x2,y2,x3,y3)
legend('dx = 0.5','dx = 0.25','dx = 0.01_','Location','SouthEast')
title('Solution of y vs x')
xlabel('x')
ylabel('y')
```