```
% prob6.m  3-oct-07
% sample code to help with matlab plot mechanics for hw2 - prob 6

% line vectors for building #1 (xstart,ystart,zstart,xend,yend,zend)
lvec1=[100 200 10 120 200 10;
  120 200 10 120 225 10;
  120 225 10 100 225 10;
  100 225 10 100 200 10;
  100 200 20 120 200 20;
  120 200 20 120 225 20;
  120 225 20 100 225 20;
  100 225 20 100 200 20;
  100 200 10 100 200 20;
  120 200 10 120 200 20;
  120 225 10 120 225 20;
  100 225 10 100 225 20];
lvec2=lvec1;

% for building #2 diplace 30 units east
for i=1:12
  lvec2(i,1)=lvec1(i,1)+30;
  lvec2(i,4)=lvec1(i,4)+30;
  end

% build rotation matrix (you do it)

% assemble other parameters needed for collinearity XL,YL,ZL,f
% (you do it)

% initialize a plot vector
px=zeros(2,1);
py=zeros(2,1);

% for this help i just plot the XY directly
% this will generate an orthogonal view from above
% you need to use collinearity to project two object space vector
% endpoints (3D) into two image space vector endpoints (2D)

% building #1
% cycle through all 12 wireframe vectors
for i=1:12
  xs=lvec1(i,1);
  ys=lvec1(i,2);
  xe=lvec1(i,4);
  ye=lvec1(i,5);
  % you put collinearity here to project XYZ -> xy
  px(1)=xs;
  py(1)=ys;
  px(2)=xe;
  py(2)=ye;
  plot(px,py);
  % following if statement just retains prior vectors when you plot
```

```
  % a new one
  if (i==1)
    hold on
    end
  end

% building #2
% cycle through all 12 wireframe vectors
for i=1:12
  xs=lvec2(i,1);
  ys=lvec2(i,2);
  xe=lvec2(i,4);
  ye=lvec2(i,5);
  % you put collinearity here to project XYZ -> xy
  px(1)=xs;
  py(1)=ys;
  px(2)=xe;
  py(2)=ye;
  plot(px,py);
  end

axis equal
title('plot from help-code for hw2, prob 6');
```