```
% Erivelton Gualter
%
% HW3


% Problem 4

A = [0 1; -12 -8];

P = lyap(A, eye(2))

syms x1 x2

Vx = [x1 x2]*P*[x1; x2]

pretty(simplify(Vx))


P =

    0.4010   -0.5000
   -0.5000    0.8125


Vx =

x1*((77*x1)/192 - x2/2) - x2*(x1/2 - (13*x2)/16)

     2                2
77 x1            13 x2
------ - x1 x2 + ------
  192              16
```

Published with MATLAB® R2018b