```
clear all;
% Spencer Goulette
% 02/04/20
```

Problem 5

```
R_a = 3.9;      % resistance
L_a = .665e-3;  % inductance
K_p = 2.87125;  % control parameters
K_l = 34473.6;

% Simulink
out = sim('ECE414HW2_5',...
          'StartTime', '-.1e-6',...
          'StopTime', '2e-3',...
          'MaxStep', '1e-9');

open_system('ECE414HW2_5');

% Get Simulink data
data = out.get('simout');
t = data.Time;
r = data.Data;

% Plot Simulink Data
figure(1);
plot(t/1e-3,r);
grid on;
title("HW02, Problem 5");
xlabel("Time, msec");
ylabel("Step Response");
```

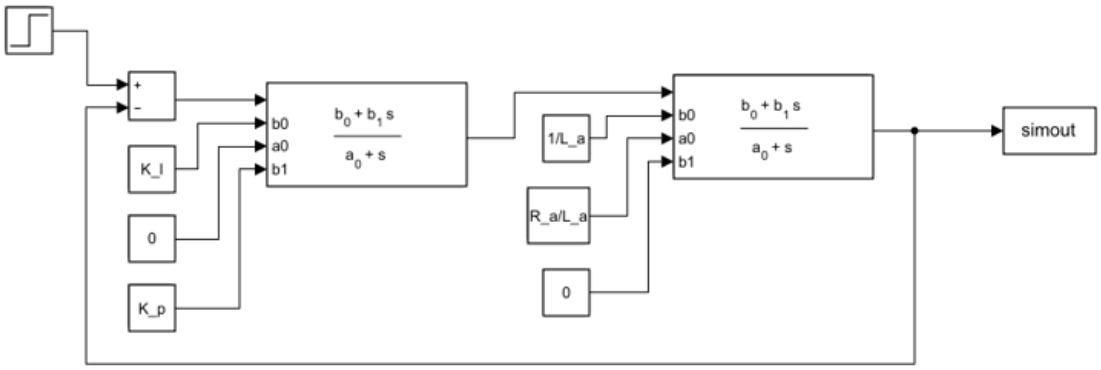
```
Warning: Block diagram '<a href="matlab:open_system
('ECE414HW2_5')">ECE414HW2_5</a>' contains 1 algebraic loop(s). To see
 more
details about the loops use the command <a
href="matlab:Simulink.BlockDiagram.getAlgebraicLoops(bdroot);">Simulink.BlockDiagr
href="matlab:open_system ('ECE414HW2_5')">ECE414HW2_5</a>') </a> or
 the command
line Simulink debugger by typing <a
 href="matlab:sldebug(bdroot);">sldebug('<a
href="matlab:open_system ('ECE414HW2_5')">ECE414HW2_5</a>') </a> in
 the MATLAB
command window. To eliminate this message, set <sldiag
 objui="configset"
objparam="AlgebraicLoopMsg">Algebraic loop</sldiag> to "none".
Found algebraic loop containing:

'<a href="matlab:open_and_hilite_hyperlink ('ECE414HW2_5/Varying
 Transfer Function/Product1','error')">ECE414HW2_5/Varying Transfer
 Function/Product1</a>'
```

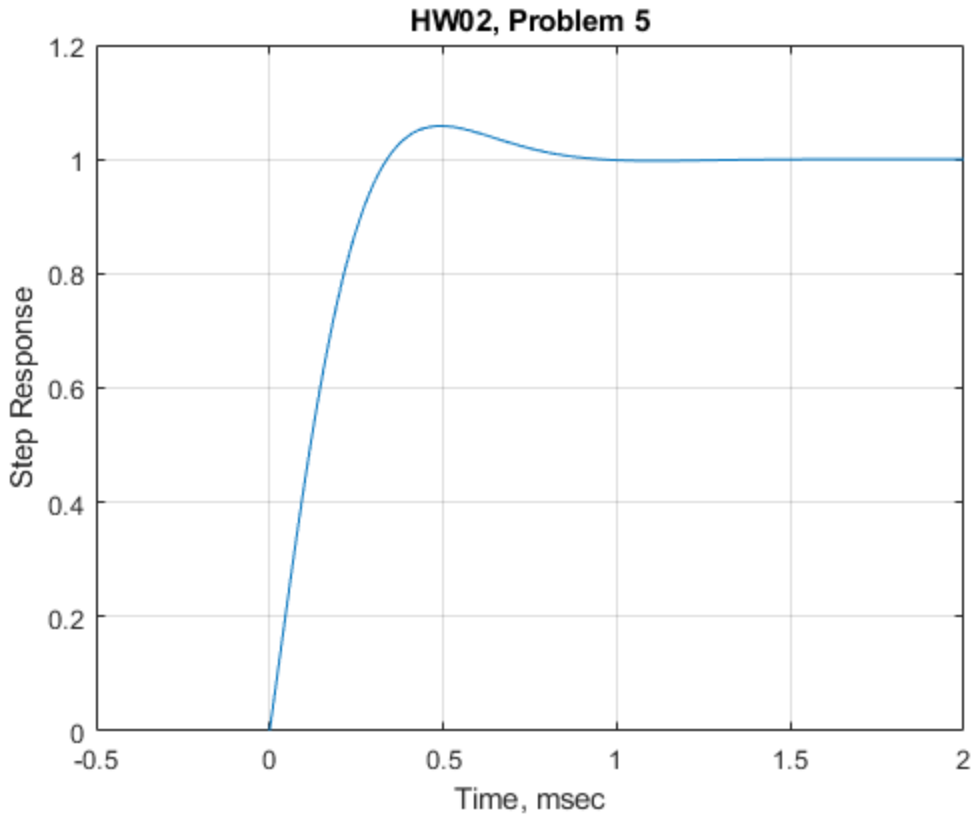
'ECE414HW2_5/Varying Transfer Function/Sum1'

'ECE414HW2_5/Varying Transfer Function1/Product1'

'ECE414HW2_5/Varying Transfer Function1/Sum1'

'ECE414HW2_5/Subtract' (algebraic variable)





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