Problem 4 :

* Simulink:

A graph with a line graph

Description automatically generatedA diagram of a computer program

Description automatically generated

XY

A graph with a line

Description automatically generated

X

Y

A graph with a line

Description automatically generated

Problem 5:

* Code:
* t = out.tout;
* a = .5;
* w = sqrt(3) / 2;
* ws = .75;
* q = 1/ w;
* c0 = t;
* ch1 = (t - 1) .\* heaviside(t - 1);
* ch2 = (t - 2) .\* heaviside(t - 2);
* s0 = - q \* (exp((-a) \* t) .\* sin( w \* t));
* sh1 = - q \* (exp((-a) \* (t-1)) .\* sin( w \* (t-1))) .\* heaviside(t - 1);
* sh2 = - q \* (exp(-a \* (t-2)) .\* sin( w \* (t-2))) .\* heaviside(t - 2);
* y = ( c0 - 2 \* (ch1) + ch2 + s0 - 2 \* sh1 + sh2 );
* figure(1);
* hold on
* ps0 = plot(out.tout, y, "-.",'LineWidth',2);
* % ps1 = plot(out.tout, y1, "-.",'LineWidth',3);
* % ps2 = plot(out.tout, y2, "-.",'LineWidth',3);
* ps\_sim = plot(out.simout,"--",'LineWidth',3);
* legend('Theoretical', 'Simulation Out', 'Simulation In');
* hold off

A graph of a function

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