1-2

Input

**clc;clear;close all;**

**sys1 = tf([1],[1 1]);**

**sys2a = tf([1 -20],[1 -5]);**

**sys2b=tf([1],[1 -2]);**

**sys2c=tf([1],[1 -2]);**

**sys2=sys2a \* sys2b \* sys2c;**

**sysp=parallel(sys1,sys2)**

**syss=series(sys1,sys2)**

**sysf = feedback(sys1,-1)**

**[num\_all,den\_all] = tfdata(sysf,'v')**

**[z\_all,p\_all,k\_all]=zpkdata(sysf,'v')**

Output

sysp =

s^3 - 8 s^2 + 5 s - 40

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s^4 - 8 s^3 + 15 s^2 + 4 s - 20

Continuous-time transfer function.

syss =

s - 20

-------------------------------

s^4 - 8 s^3 + 15 s^2 + 4 s - 20

Continuous-time transfer function.

sysf =

1

-

s

Continuous-time transfer function.

num\_all =

0 1

den\_all =

1 0

z\_all =

0×1 empty double column vector

p\_all =

0

1-3

**clc;clear;close all;**

**sys1 = tf([1],[1 1]);**

**t=0:0.1:10;**

**[y\_impulse,t]=impulse(sys1,t);**

**[y\_step,t] = step(sys1,t);**

**figure(1)**

**subplot(2,1,1)**

**plot(y\_impulse,t)**

**grid on;**

**title('實驗練習1-3')**

**xlabel('t')**

**ylabel('y\_impulse')**

**subplot(2,1,2)**

**plot(y\_step,t)**

**xlabel('t')**

**ylabel('y\_step')**

**grid on;**

**hold on;**