M8.1:

使用光盘中已经给出的factorize.m,可以得到如下结果:

syms z

p = [-0.3 0.16 0.1 1.2 0.1 0.16 -0.3];

factorize(p)

结果为:

>> M8\_1

ans =

1.000000000000000 -1.885382627536369 0

1.000000000000000 1.228483756545367 1.878525099851650

1.000000000000000 0.653961853712998 0.532332519847075

1.000000000000000 -0.530396316055330 0

故级联实现为:

同样的道理,对于a,b,c,d四问,也都可以得到如下结果:

对于b:

结果为:

>> M8\_1

p=[2 -3.8 1.5 -4.2 1.5 -3.8 2]

ans =

1.000000000000000 -2.032515973706508 0

1.000000000000000 1.190268485449873 1.000000000000000

1.000000000000000 -0.565751458400392 1.000000000000004

1.000000000000000 -0.492001053342974 0

故级联实现为:

对于C:

结果为:

>> M8\_1

p=[0.3 0.16 0.1 -0.1 -0.16 -0.3]

ans =

1.000000000000000 -1.000000000000000 0

1.000000000000000 -0.082515946857132 1.000000000000000

1.000000000000000 1.615849280190465 0.999999999999998

对于D:  
结果为:  
>> M8\_1

p=[-2 3.8 -0.15 0.15 -3.8 2]

ans =

1.000000000000000 1.289971264130531 1.000000000000000

1.000000000000000 -1.541072545602719 0

1.000000000000000 -0.999999999999995 0

1.000000000000000 -0.648898718527817 0

实际级联实现类比A和B即可