Införa Laplace 'variable' s.

```
s=tf('s');
```

Bestäm använda storheter

```
k = 1;
T0 = 4;

b = 0.5;
a = 0.82;
d = b/a

zeta = 1/(sqrt(((2*pi) / log(d))^2 + 1) )
w0 = (2*pi)/(T0*sqrt(1 - zeta^2 ))


Gp = (k*w0^2)/(s^2 + 2*zeta*w0*s + w0^2 )

Gtot = 1/((1 + 1.15*s)^2)

Gr = Gtot / (Gp * (1 - Gtot));
Gr = minreal(Gr);

Grd = c2d(Gr, 0.2, 'tustin')
%Gp = 2.48/(s^2 + 2*0.0784*1.576*s + 2.48);
%Gr = Gtot / (Gp * (1 - Gtot));
%Gr = minreal(Gr)

%{
step(G)
ylim([0 2])
xlim([0 12])
stepinfo(G)
grid on
yticks([0 1/3 2/3 1 4/3 5/3 2])
%}

%Gr = (s^2 + 0.247*s +2.48) / (3.28*s^2 + 5.704*s)
%


d =

    0.6098


zeta =

    0.0785
```

```
w0 =

    1.5757


Gp =

          2.483
  ----------------------
  s^2 + 0.2473 s + 2.483

Continuous-time transfer function.


Gtot =

            1
  ---------------------
  1.322 s^2 + 2.3 s + 1

Continuous-time transfer function.


Grd =

  0.2723 z^2 - 0.506 z + 0.2595
  -----------------------------
     z^2 - 1.704 z + 0.7037

Sample time: 0.2 seconds
Discrete-time transfer function.
```

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