

```
clear

syms s;

a = 2.66;
T = .188;
kc = 1.7;
c = tf([a*T,1],[T,1])
```

```
c =

    0.5001 s + 1
    -----
    0.188 s + 1
```

Continuous-time transfer function.

```
p = tf([0,20],[1,12,20,0])
```

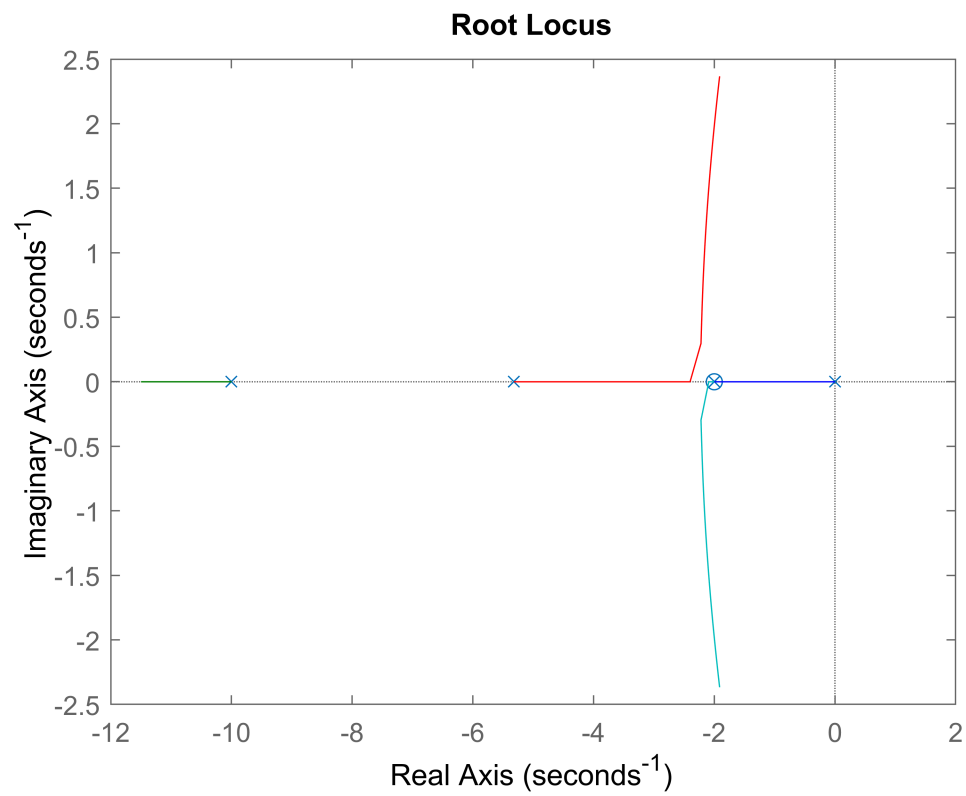
```
p =

          20
    -----
    s^3 + 12 s^2 + 20 s
```

Continuous-time transfer function.

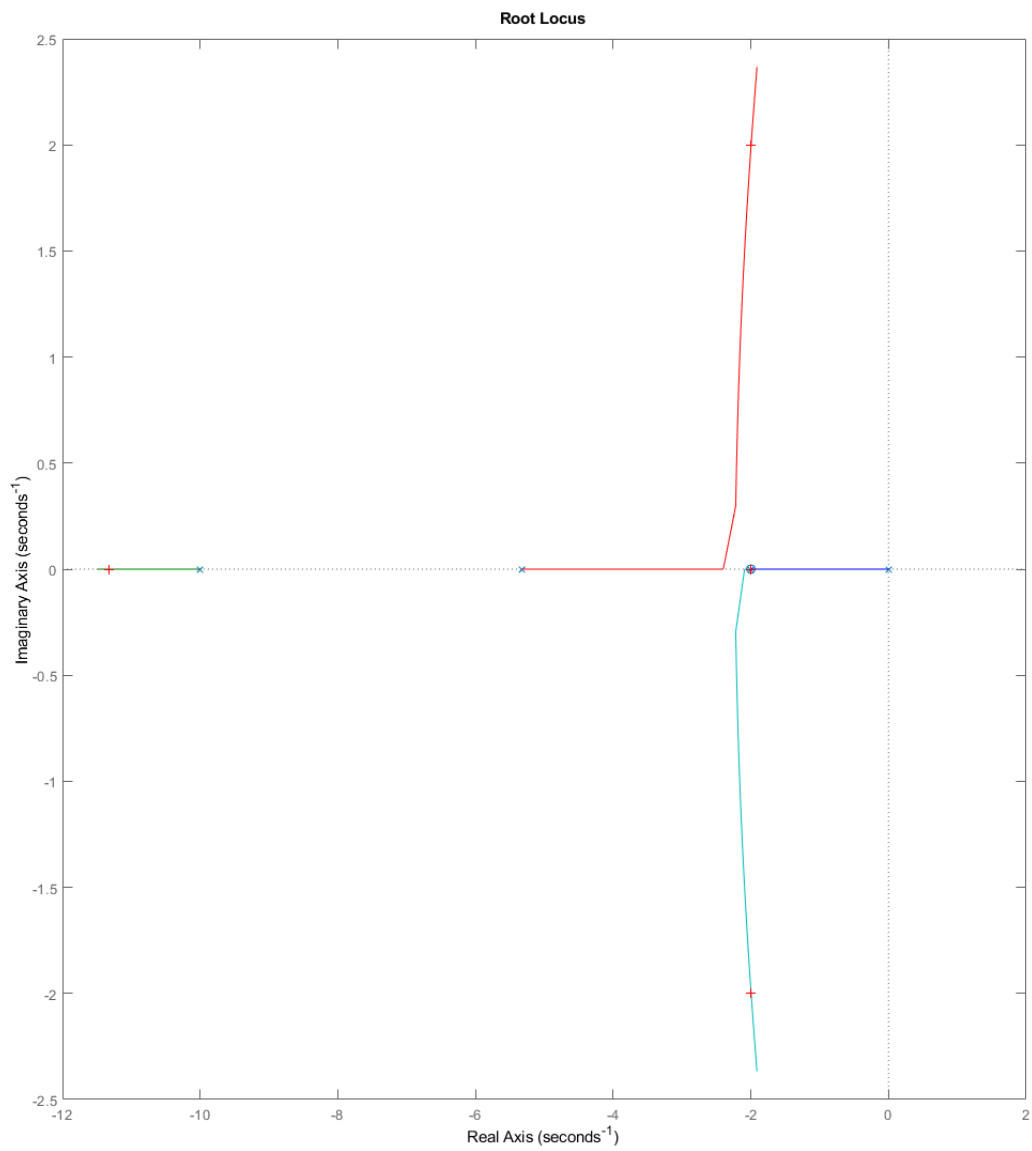
```
G = c*p;

Kmax=2;
K= 0:Kmax/100:Kmax;
rlocus(G,K);
```



```
rlocusplot(G,K);  
[k,r] = rlocfind(G)
```

Select a point in the graphics window



```
selected_point = -2.0011 + 1.9985i
k = 1.6977
r = 4x1 complex
-11.3272 + 0.0000i
-1.9964 + 1.9975i
-1.9964 - 1.9975i
-1.9992 + 0.0000i
```

```
clear
syms s;
```

```
a = 2.66;
T = .188;
kc = 1.7;

c = kc*tf([a*T,1],[T,1])
```

```
c =

    0.8501 s + 1.7
    -----
    0.188 s + 1
```

Continuous-time transfer function.

```
expand(s*(s+2)*(s+10)); %the den of P(s)

p = tf([0,20],[1,12,20,0])
```

```
p =

      20
    -----
    s^3 + 12 s^2 + 20 s
```

Continuous-time transfer function.

```
G = c*p

M = feedback(G,1)
```

```
M =

      17 s + 34
    -----
    0.188 s^4 + 3.256 s^3 + 15.76 s^2 + 37 s + 34
```

Continuous-time transfer function.

```
step(M)
```

