UNIVERSIDAD FIDÉLITAS

SEDE HEREDIA

CONTROL AUTOMÁTICO

LUIS DIEGO MORA BARBOZA

TAREA # 6

CORRECCIÓN DEL ERROR EN SISTEMAS RETROALIMENTADOS

II CAITRMESRE, 2018

¿Cómo hacer para el sistema dé 0?

G(s) = $\frac{1}{(s+2)(s+3)}$ → Tipo 0

Tipo de sistema	Entrada escalón r(t) = 1	Entrada rampa r(t) = t	Entrada aceleración r(t) = $\frac{1}{2}t^2$
0	$\frac{1}{1+k}$	∞	∞
1	0	$\frac{1}{k}$	∞
2	0	0	$\frac{1}{k}$

$k_p = \lim_{s\to 0} \frac{1}{(s+2)(s+3)}$

$k_p = \lim_{s\to 0} \frac{1}{(0+2)(0+3)}$

$k_p = \lim_{s\to 0} \frac{1}{(2)(3)}$

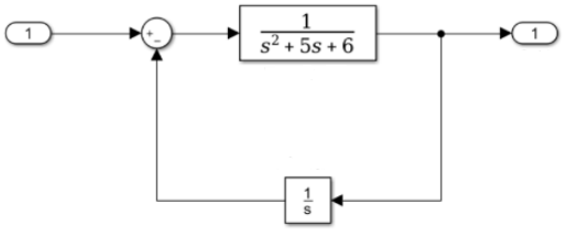
$k_p = \frac{1}{6}$

$e_{ss} = \frac{1}{1+\frac{1}{6}}$

$e_{ss} = \frac{6}{7}$

Al aplicar $\frac{1}{s}$

G'(s) = $\frac{1}{s(s+2)(s+3)}$ → Tipo 1



Verificación en MatLab

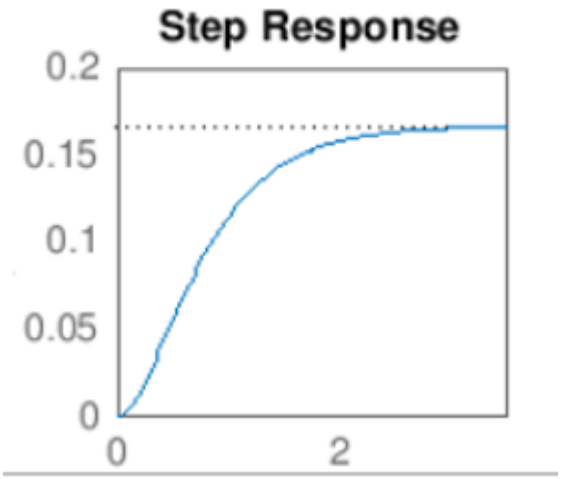
```
G=tf([1],[1 5 6])

G =

        1
  -------------
  s^2 + 5 s + 6

Continuous-time transfer function.

step(G)
```




```
P=tf([1],[1 0])

P =

  1
  -
  s
```

```
Continuous-time transfer function.

feedback(G,P)

ans =

            s
  ---------------------
  s^3 + 5 s^2 + 6 s + 1

Continuous-time transfer function.

S=feedback(G,P)

S =

            s
  ---------------------
  s^3 + 5 s^2 + 6 s + 1

Continuous-time transfer function.

step(S)
```