Ajuste de lazo para asegurar estabilidad

Tarea #3

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Parte hecha en matlab:

```
>> num=[0 0 1 0]

num =

     0 0 1 0

 >> den=[1 4 4 0]

den =

      1 4 4 0

>> A=tf(num,den)

A =

     s

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

s^3 + 4 s^2 + 4 s

Continuous-time transfer function.

>> num=[0 1 0]

num =

     0 1 0

>> den=[1 2 0]

den =

     1 2 0

>> B=tf(num,den)

B =

     s

---------
```

```
s^2 + 2 s

Continuous-time transfer function.

>> W=feedback(A,B)

W =

s^3 + 2 s^2

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s^5 + 6 s^4 + 12 s^3 + 9 s^2

Continuous-time transfer function.

>> num=[0 0 1 2 0 0]

num = 0 0 1 2 0 0

>> den=[1 6 12 9 0 0]

den = 1 6 12 9 0 0

>> [Z,P,K]=tf2zp(num,den)

Z =

     0

     0

    -2

P =

0.0000 + 0.0000i

0.0000 + 0.0000i

-3.0000 + 0.0000i

-1.5000 + 0.8660i

-1.5000 - 0.8660i

K =

     1
```
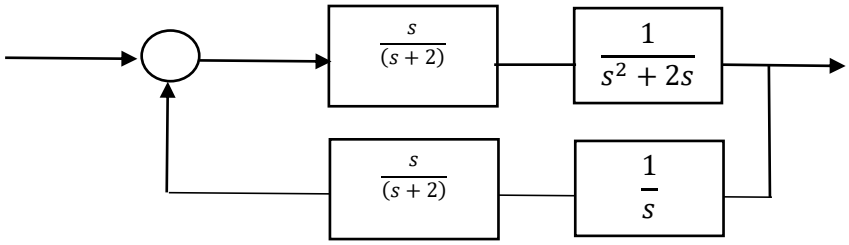
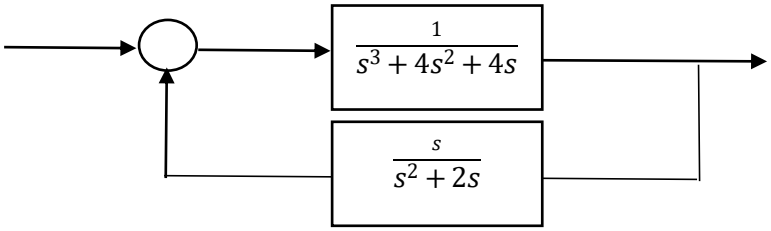

Parte hecha a mano:





Feedback:

$$\frac{s^3+2s^2}{s^5+6s^4+12s^3+9s^2}$$

Z = ceros = 0, 0, -2

P= polos

0.0000 + 0.0000i

0.0000 + 0.0000i

-3.0000 + 0.0000i

-1.5000 + 0.8660i

-1.5000 + 0.8660i