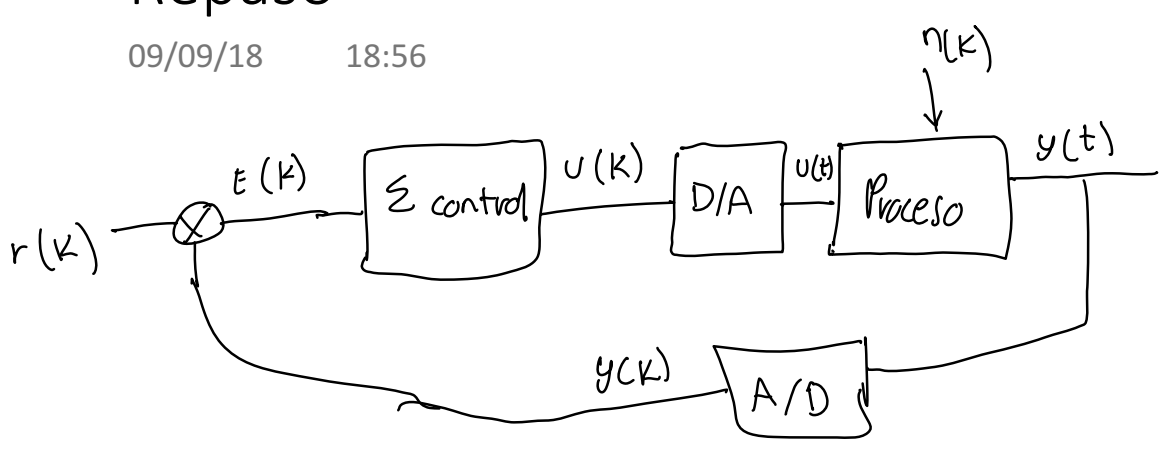


# Repaso

09/09/18 18:56

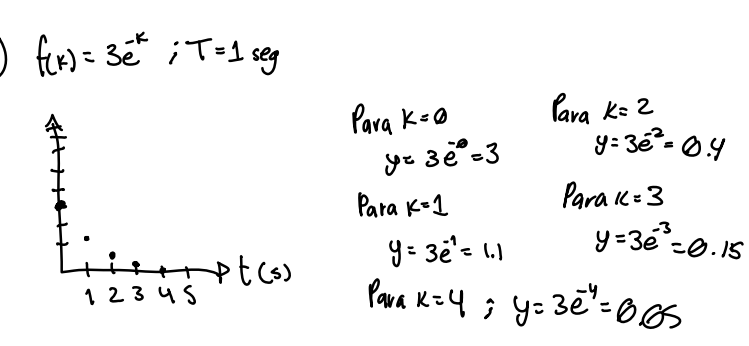


## ② Pseudocódigo

```
r=5;
while(1)
{
  y = leer A/D;
  e = r - y;
  u = f(e);
  u = D/A;
}
end
```

③ Es una herramienta matemática que nos ayuda a pasar del plano discreto al complejo y viceversa (con  $z^{-1}$ ). Ayuda a obtener la función de recurrencia.

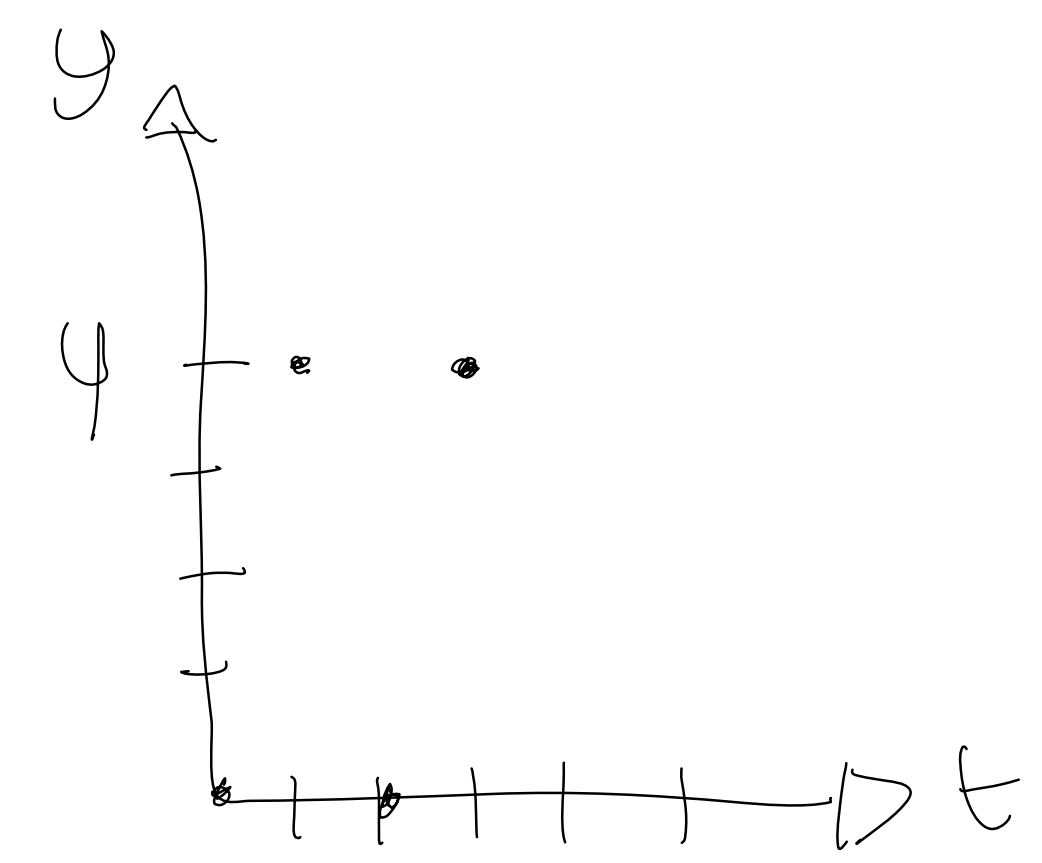
④



$$y(k) + y(k-1) = 2u(k-1)$$

①  $y(k) = 2u(k-1) - y(k-1)$

Para  $k=0$   
 $y(0) = 2u(0-1) - y(0-1) = 0$   
 Para  $k=1$   
 $y(1) = 2u(1) - y(0) = 2(2) - 0 = 4$   
 Para  $k=2$   
 $y(2) = 2u(2) - y(1) = 2(2) - 4 = 0$   
 Para  $k=3$   
 $y(3) = 2(2) - 0 = 4$

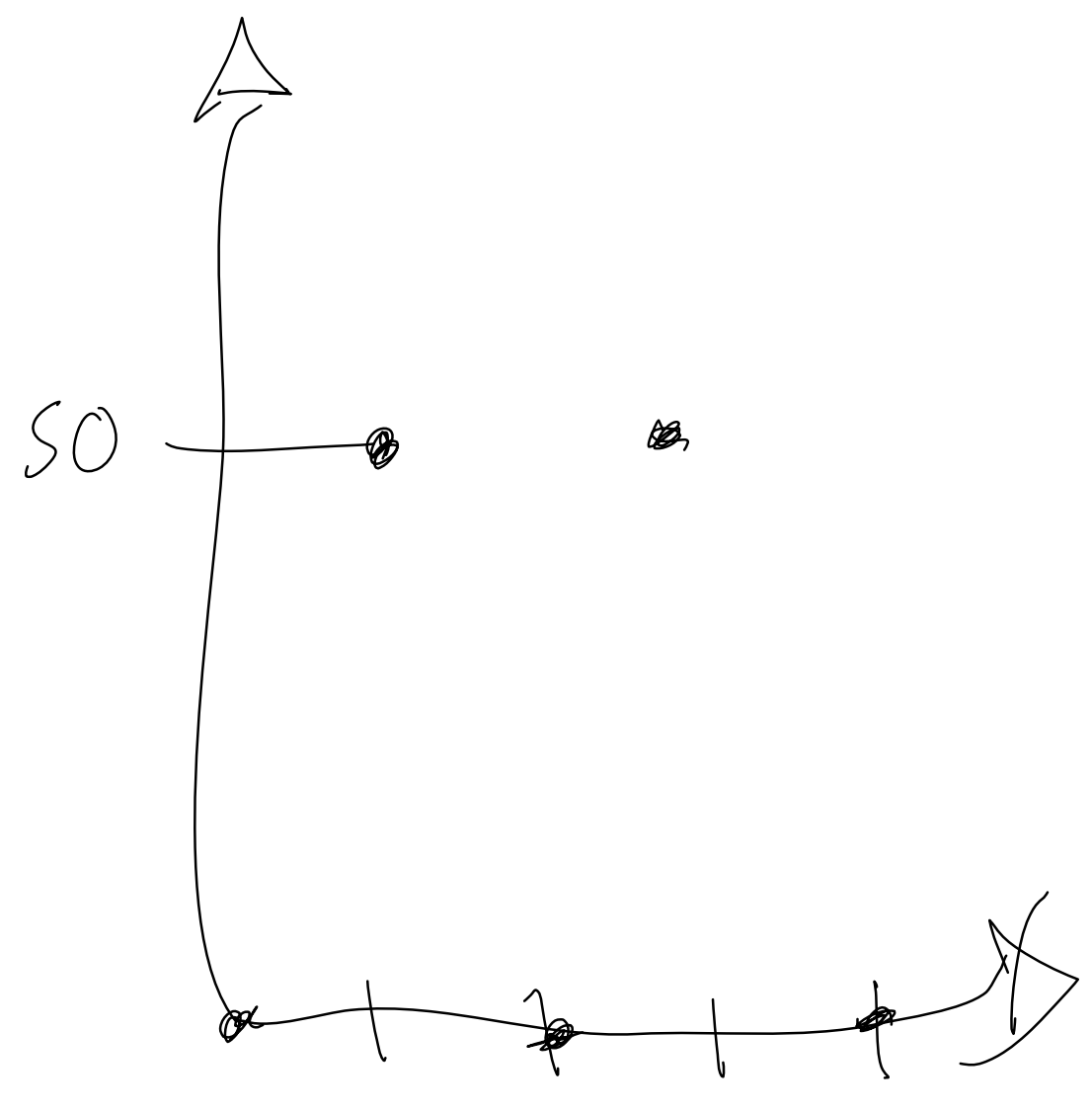


## Pseudocódigo

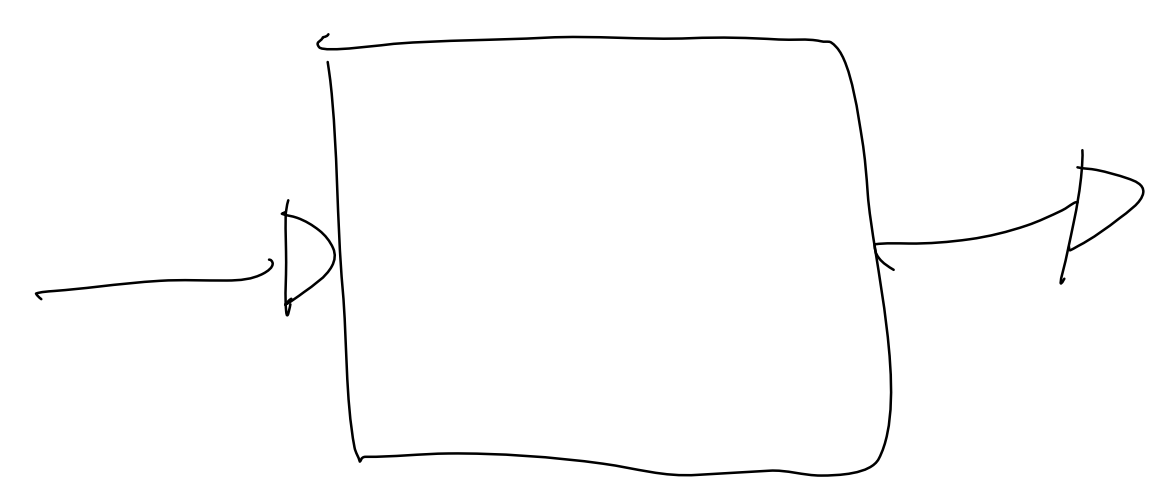
```
T=0.5
Uant=0
Yant=0
while(1)
{
  Uact = leer;
  Yact = 2Uant - Yant;
  Yant = Yact;
  Uant = Uact;
  K = K+1;
  plot(KT, Yant);
}
end
```

④  $y(k) = 10u(k-1) - y(k-1)$

$y(0) = 10u(-1) - y(-1) = 0$   
 $y(1) = 10u(0) - y(0) = 50$   
 $y(2) = 10u(1) - y(1) = 0$   
 $y(3) = 0$   
 $y(4) = 0$



②

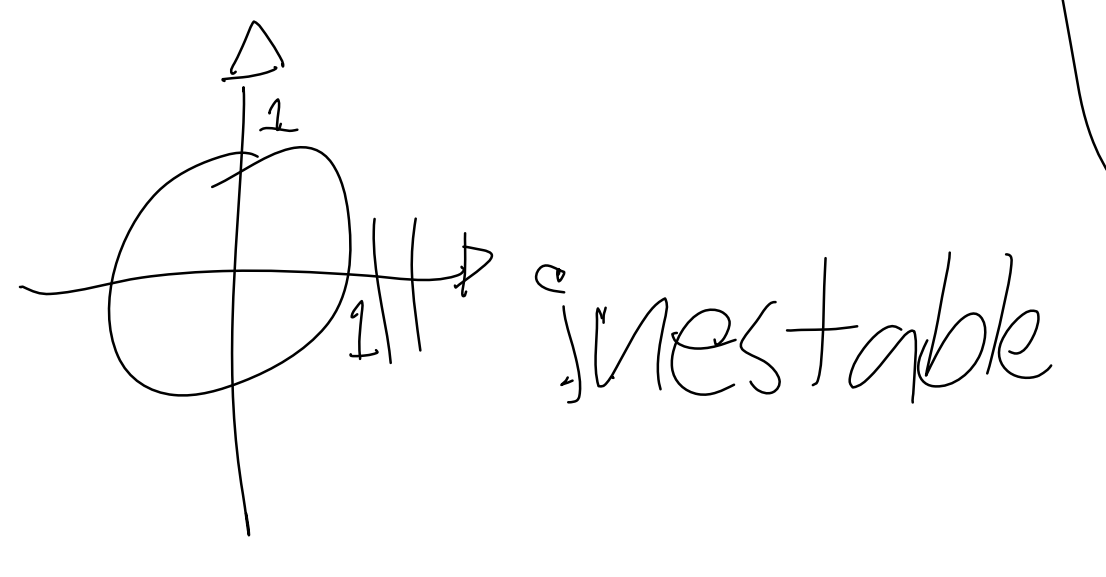


① Expresión matemática que define una sucesión y ayuda analizar el comportamiento de un  $\Sigma$  discreto

② Encontrar convergencia de una serie.

③  $f(t) = 2e^{3t} \sin(t)$

$$\frac{e^{3T} \bar{z}^{-1} \sin(T)}{1 - 2e^{3T} \bar{z}^{-1} \cos(T) + e^{6T} \bar{z}^{-2}} = \frac{e^{3T} \bar{z} \sin(T)}{\bar{z}^2 - 2e^{3T} \bar{z} \cos(T) + e^{6T}} = \frac{e^{3(0.1)} \bar{z} \sin(.1)}{\bar{z}^2 - 2e^{3(0.1)} \bar{z} \cos(.1) + e^{6(0.1)}} = \frac{2.36e^{-3} \bar{z}}{\bar{z}^2 - 2.7\bar{z} + 1.02} = \frac{2.36e^{-3} \bar{z}}{(\bar{z} - 1.4)(\bar{z} - 1.3)}$$



④  $F(z) = \frac{z^{-3}(z+0.5)}{(1-0.5z^{-1})(1-\bar{z}^{-1})^2} = \frac{z+0.5}{z^5 - 0.5z^4}$

ceros:  $z = -0.5$   
 polos:  $z = 1.4, z = 1.3$