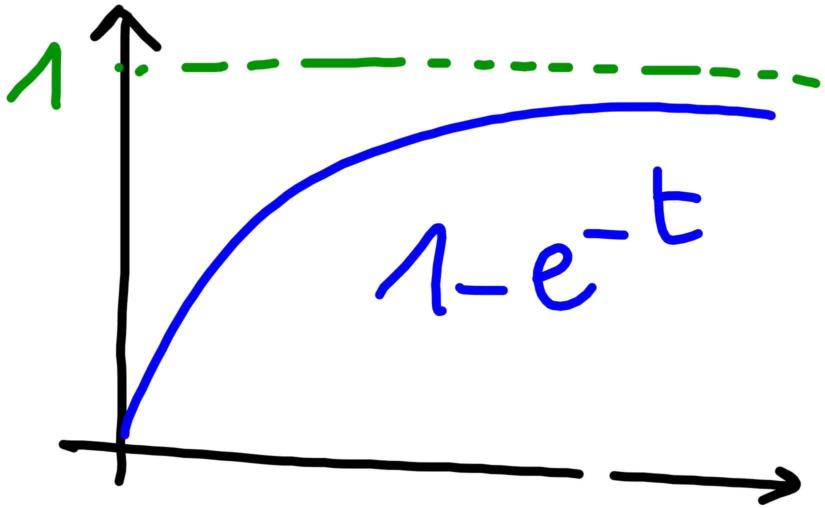
1
$1-e^{-t}$

$$\frac{1}{s(s+1)} = \frac{a}{s} + \frac{b}{s+1}$$

$$\frac{\boxed{a(s+1) + s \cdot b}}{s(s+1)} = \frac{1}{s(s+1)}$$

$$a(s+1) + s \cdot b \to 1$$

$$X(z) \underset{1-1}{\overset{\text{biunivoca}}{\rightleftarrows}} \begin{array}{l} x(kT) \\ x(k) \\ x_k \in \mathbb{R} \end{array}$$

$$x(t) \xrightarrow{t = kT} x(kT) \qquad x(kT) \not\rightarrow x(t)$$

$$x(t) \rightarrow X(z) \qquad X(z) \not\rightarrow x(t)$$

Vale solo se è soddisfatto il Teorema di Shannon tempo continuo

$x_1(t)$

$x_2(t)$

$\vdots$

$x_n(t)$

$\vdots$

$x_\infty(t)$

tempo discreto

X_K

$z^{-1} \longrightarrow$ ritardo unitario

$$\underbrace{z^{-1}}_{\text{operatore}} x(k) \longrightarrow x(k-1)$$

ritardo unitario

$$\lim_{k\to\infty} x(k) = \lim_{z\to 1}\left[\boxed{(1-z^{-1})}\,X(z)\right]$$

reciproco del gradino unitario

$$\frac{1}{1-z^{-1}}$$

$$\lim_{t \to \infty} f(t) = \lim_{s \to 0} \boxed{s}\, F(s)$$

$$\frac{1}{s}$$

$$S \cdot x(t) = \dot{x}(t)$$

$$\frac{1}{s(s+1)} = \frac{\overset{1}{a}}{s+0} + \frac{\overset{-1}{b}}{s+1} + \overset{0}{\overset{\shortparallel}{K}}$$

$$R = \begin{bmatrix} a & b \end{bmatrix}$$

$$P = \begin{bmatrix} 0 & -1 \end{bmatrix}$$

$$X(z) \rightleftarrows x_k \xleftarrow{T} x(t)$$