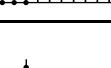
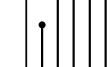
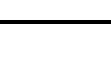


TABLE DE TRANSFORMEES EN Z

| x(n) | X(z) |
|---|--|
|  Impulsion $x(n) = \delta(n)$ | 1 |
|  Echelon unité $x(n) = u(n)$ | $\frac{1}{1 - z^{-1}} = \frac{z}{z - 1}$ |
|  Rampe $x(n) = n.u(n)$ | $\frac{z^{-1}}{(1 - z^{-1})^2} = \frac{z}{(z - 1)^2}$ |
|  « Exponentielle » $x(n) = a^n.u(n)$ | $\frac{1}{1 - a.z^{-1}} = \frac{z}{z - a}$ |
|  $(1 - a^n).u(n)$ | $\begin{aligned} & \frac{(1 - a).z^{-1}}{(1 - z^{-1}).(1 - a.z^{-1})} \\ &= \frac{(1 - a).z}{(z - 1).(z - a)} \end{aligned}$ |
|  $n.a^n.u(n)$ | $\frac{a.z^{-1}}{(1 - a.z^{-1})^2} = \frac{a.z}{(z - a)^2}$ |
|  Sinus $[\sin(n.\omega_0.T_E)].u(n)$ | $\begin{aligned} & \frac{\sin(\omega_0.T_E).z^{-1}}{1 - 2.\cos(\omega_0.T_E).z^{-1} + z^{-2}} \\ &= \frac{\sin(\omega_0.T_E).z}{z^2 - 2.\cos(\omega_0.T_E).z + 1} \end{aligned}$ |
|  Cosinus $[\cos(n.\omega_0.T_E)].u(n)$ | $\begin{aligned} & \frac{1 - \cos(\omega_0.T_E).z^{-1}}{1 - 2.\cos(\omega_0.T_E).z^{-1} + z^{-2}} \\ &= \frac{z^2 - \cos(\omega_0.T_E).z}{z^2 - 2.\cos(\omega_0.T_E).z + 1} \end{aligned}$ |
|  Oscillations amorties $a^n.[\sin(n.\omega_0.T_E)].u(n)$ | $\begin{aligned} & \frac{a.\sin(\omega_0.T_E).z^{-1}}{1 - 2.a.\cos(\omega_0.T_E).z^{-1} + a^2.z^{-2}} \\ &= \frac{a.\sin(\omega_0.T_E).z}{z^2 - 2.a.\cos(\omega_0.T_E).z + a^2} \end{aligned}$ |
|  $a^n.[\cos(n.\omega_0.T_E)].u(n)$ | $\begin{aligned} & \frac{1 - a.\cos(\omega_0.T_E).z^{-1}}{1 - 2.a.\cos(\omega_0.T_E).z^{-1} + a^2.z^{-2}} \\ &= \frac{z^2 - a.\cos(\omega_0.T_E).z}{z^2 - 2.a.\cos(\omega_0.T_E).z + a^2} \end{aligned}$ |