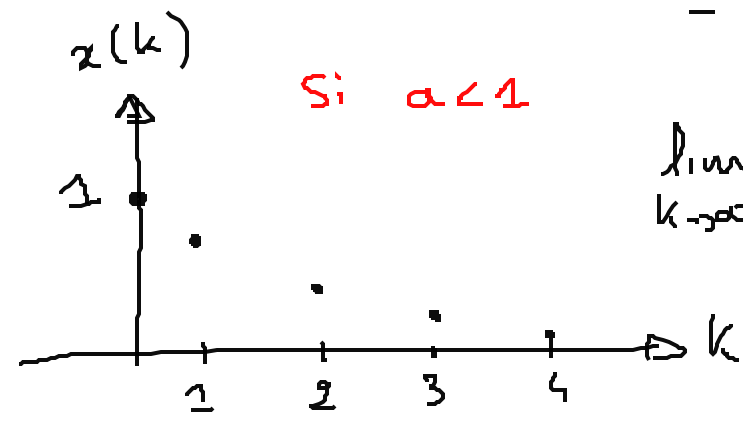


1

a) $x(k) = a^k \cdot 1_{[0, +\infty[}(k)$

$$X(z) = \sum_{k=0}^{\infty} x(k) z^{-k}$$

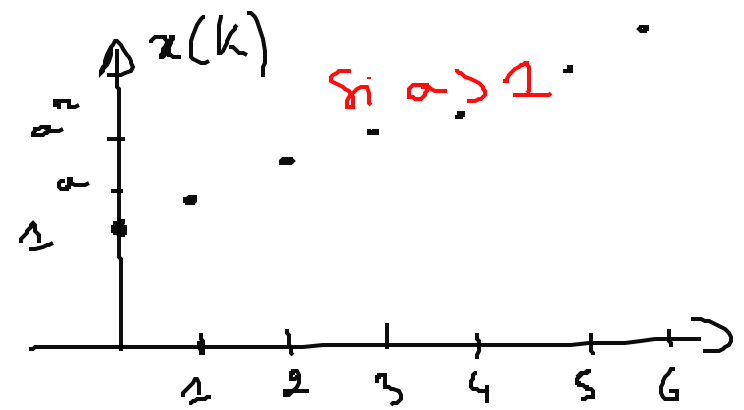
$$= \sum_{k=0}^{\infty} a^k z^{-k}$$



Si $a < 1$

$$\lim_{k \rightarrow \infty} a^k \rightarrow 0$$

\hookrightarrow Intuitivement \rightarrow convergence



Si $a > 1$

$k \rightarrow$ non convergence.

Si $x(k)$ est la réponse d'un f.lte \Rightarrow saturation de la sortie du f.lte.