

$$\begin{aligned}
 x(k) &= b^{|k|} \\
 X(z) &= \sum_{k=-\infty}^{+\infty} b^{|k|} z^{-k} = \sum_{k=-\infty}^{-1} b^{-k} z^{-k} + \sum_{k=0}^{+\infty} b^k z^{-k} \\
 &= \sum_{k'=1}^{\infty} b^{k'} z^{k'} + \sum_{k=0}^{\infty} b^k z^{-k}
 \end{aligned}$$

* $\lim_{k \rightarrow \infty} |b^k z^k|^{1/k} < 1 \Rightarrow |bz| < 1 \Rightarrow |z| < \frac{1}{b}$

* $\lim_{k \rightarrow \infty} |b^k z^{-k}|^{1/k} < 1 \Rightarrow |bz^{-1}| < 1 \Rightarrow |z| > b$

$$\mathcal{D} = \left[b < |z| < \frac{1}{b} \right]$$

