First, generating two samples, say u_1 and u_2, with size n, where $u_1, u_2 \sim N(0,1)$.

Second, calculate the empirical distribution function of y, which is as follow:

$$ku_2 = kF(y) = \begin{cases} \dfrac{y^\alpha}{\alpha} & y \leq 1 \\ \\ k - e^{-y} & y > 1 \end{cases}$$

where $k = \frac{1}{\alpha} + \frac{1}{e}$

And via inverse transformation, we get

$$y = \begin{cases} (\alpha k u_2)^{1/\alpha} & u_2 \leq \dfrac{1}{\alpha k} \\ \\ -\ln(k - ku_2) & u_2 > \dfrac{1}{\alpha k} \end{cases}$$

Then, we get x from y if and only if one of the following conditions is established:

- When $y \leq 1$, $u_1 \leq e^{-y}$
- When $y > 1$, $u < y^{\alpha - 1}$