

$$f(z) = 1 - e^z$$

$$f(z) = 0$$

$$e^z = 1$$

$$z_n = 2n\pi i, n \in \mathbb{Z}$$

$$f'(2n\pi i) = -e^{2n\pi i} = -1 \neq 0$$

So:

$$f(2n\pi i) = 0, f'(z) \neq 0$$

So all z_n are simple zeros of $f(z)$.