

PROBLEM:

For each of the following systems (specified by either an $H(z)$ or a difference equation), determine all the poles and zeros and make a pole-zero plot.

(a) \mathcal{S}_a : $y[n] = x[n] + x[n - 4]$

(b) \mathcal{S}_b : $H(z) = 1 + z^{-1} + z^{-2} + z^{-3} + z^{-4}$

(c) \mathcal{S}_c : $y[n] = -0.96y[n - 2] - 1.6x[n - 1] + x[n - 2]$