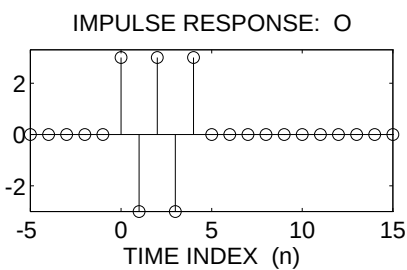
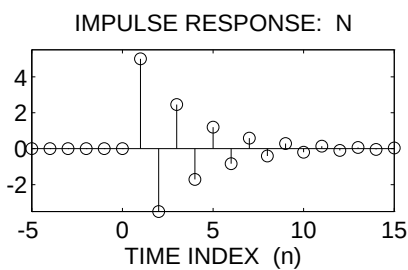
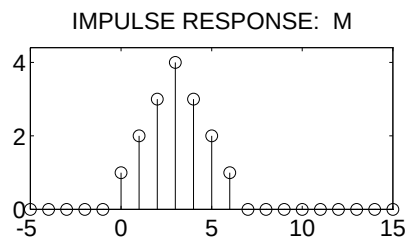
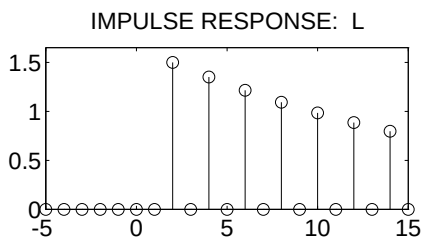
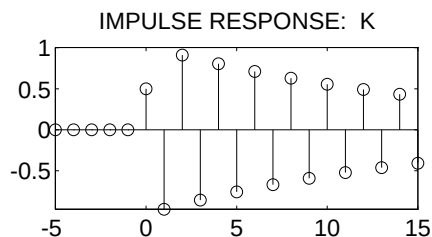
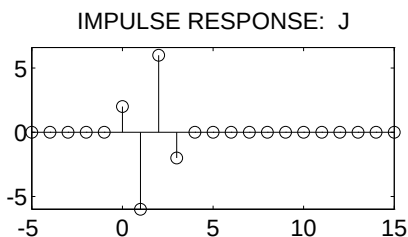


PROBLEM:



For each of the impulse-response plots (J, K, L, M, N, O), determine which one of the following systems (specified by either an $H(z)$ or a difference equation) matches the impulse response.

$$S_0 : y[n] = 0.90y[n-2] + 1.5x[n-2]$$

$$S_1 : y[n] = -0.7y[n-1] + 5x[n-1]$$

$$S_2 : y[n] = -0.7y[n-1] + 7x[n] + 10x[n-1]$$

$$S_3 : H(z) = \frac{\frac{1}{2}(1 - z^{-1})}{1 + 0.94z^{-1}}$$

$$S_4 : H(z) = 2(1 - z^{-1})^3$$

$$S_5 : H(z) = 3(1 - z^{-1} + z^{-2} - z^{-3} + z^{-4})$$

$$S_6 : y[n] = 8x[n] - 8x[n-1]$$

$$S_7 : y[n] = 2 \sum_{k=0}^7 (-1)^k x[n-k]$$

$$S_8 : y[n] = x[n] + 2x[n-1] + 3x[n-2] + 4x[n-3] + 3x[n-4] + 2x[n-5] + x[n-6]$$

$$S_9 : H(z) = \frac{1 - z^{-1} + z^{-2}}{1 + 0.9z^{-1} + 0.81z^{-2}}$$