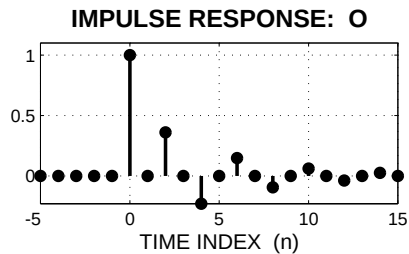
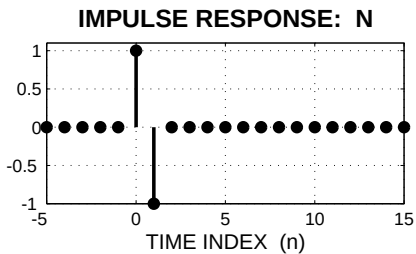
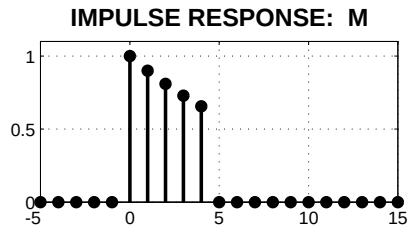
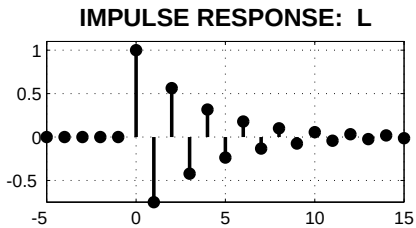
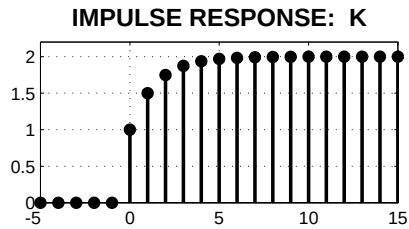
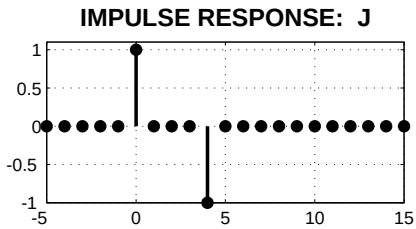


PROBLEM:



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.

$\mathcal{S}_1 : y[n] = -.75y[n - 1] + x[n]$

$\mathcal{S}_5 : H(z) = \frac{2}{1 - z^{-1}} + \frac{-1}{1 - .5z^{-1}}$

$\mathcal{S}_2 : H(z) = \frac{1 + z^{-2}}{1 + 0.64z^{-2}}$

$\mathcal{S}_6 : H(z) = \sum_{k=0}^4 (0.9)^k z^{-k}$

$\mathcal{S}_3 : H(z) = \sum_{k=0}^4 z^{-k}$

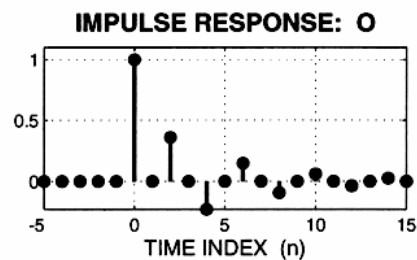
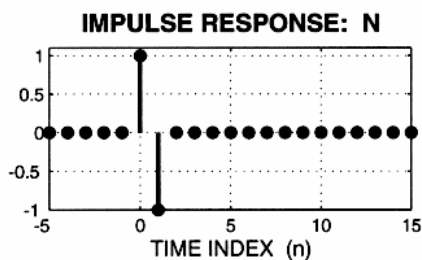
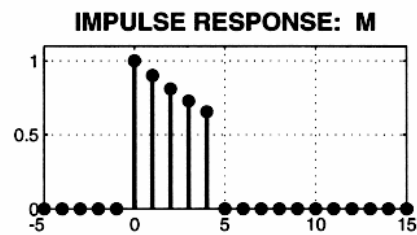
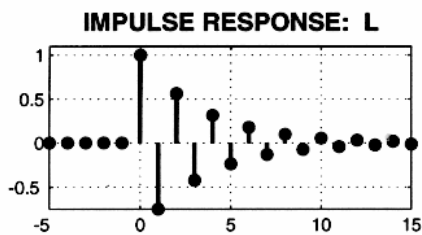
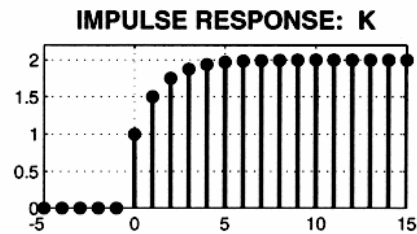
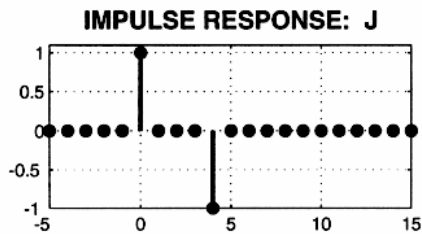
$\mathcal{S}_7 : y[n] = x[n] - x[n - 1]$

$\mathcal{S}_4 : H(z) = \frac{1 + z^{-2}}{1 - 0.75z^{-1}}$

$\mathcal{S}_8 : H(z) = 1 - z^{-4}$

Mark your answer in the following table:

IMPULSE RESPONSE	SYSTEM ($\mathcal{S}_\#$)	IMPULSE RESPONSE	SYSTEM ($\mathcal{S}_\#$)
J		K	
L		M	
N		O	



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.

$$\mathcal{S}_1 : y[n] = -.75y[n-1] + x[n]$$

$$\mathcal{S}_5 : H(z) = \frac{2}{1-z^{-1}} + \frac{-1}{1-.5z^{-1}}$$

$$\mathcal{S}_2 : H(z) = \frac{1+z^{-2}}{1+0.64z^{-2}}$$

$$\mathcal{S}_6 : H(z) = \sum_{k=0}^4 (0.9)^k z^{-k}$$

$$\mathcal{S}_3 : H(z) = \sum_{k=0}^4 z^{-k}$$

$$\mathcal{S}_7 : y[n] = x[n] - x[n-1]$$

$$\mathcal{S}_4 : H(z) = \frac{1+z^{-2}}{1-0.75z^{-1}}$$

$$\mathcal{S}_8 : H(z) = 1 - z^{-4}$$

Mark your answer in the following table:

IMPULSE RESPONSE	SYSTEM ($\mathcal{S}_\#$)	IMPULSE RESPONSE	SYSTEM ($\mathcal{S}_\#$)
J	8	K	5
L	1	M	6
N	7	O	2