

PROBLEM:

A linear time-invariant system has system function

$$H(z) = \sum_{k=0}^4 (5 - k)z^{-k}$$

- (a) Determine the response of this system to a unit impulse input; i.e., find the output $y[n] = h[n]$ when the input is $x[n] = \delta[n]$. Plot $h[n]$ as a function of n .
- (b) Use z -transforms to determine the response of this system to the input $x[n] = \delta[n - 2] - \delta[n - 3] + \delta[n - 4] - \delta[n - 5]$