PROBLEM:

The following IIR filter is specified by its system function:

IIR FILTER: $H(z) = \frac{z^{-1}}{1 + \frac{1}{2}z^{-1}}$ (a) Determine the impulse response: give your answer as a plot of h[n] vs. n.

(b) Make a plot of the signal: $x[n] = \delta[n] - \frac{1}{4}\delta[n-2]$.

 $\delta[n] - \frac{1}{4}\delta[n-2]$. Make a plot of y[n] versus n for the range $-1 \le n \le 5$.

(c) Use the z-transform method to determine a simple formula for the output when the input is x[n] =

n

n

Plot zero values also

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