

PROBLEM:

Suppose that a LTI system has a z -transform system function equal to

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

- Determine the difference equation that relates the output $y[n]$ of the system to the input $x[n]$.
- Solve for the impulse response of the system. Give your answer as a plot of $h[n]$ vs. n .