Demo 8 Exercise 1

1. Difference equation

y(n) = b0 x(n) + G * x(n-N)

b0 = 1.0

G = 0.8

RATE = 16000

delay_sec = 0.05

N = int (RATE * delay_sec)

N = 800

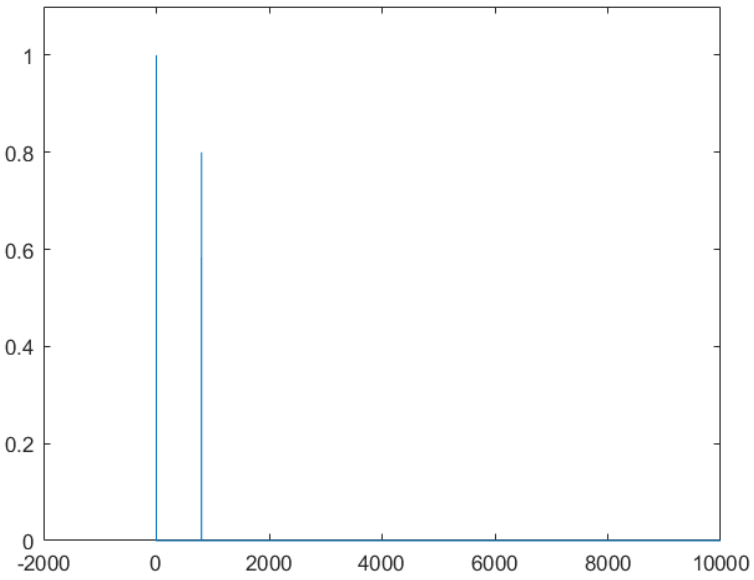
y(n) = (1.0)* x(n) + (0.8) * x(n-800)

$\mathrm{Y(Z)} = \mathrm{X(Z)} + (0.8) * \mathrm{X(z)}z^{-800}$

2. Transfer Function

$\mathrm{H(Z)} = \ 1 + (0.8) \times Z^{-800}$

3. Impulse Response



h(n) = δ + 0.8 × δ(n-800)

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4. Pole-zero diagram