

Homework

$$H(z) = \frac{1 + 2z^{-1} + 1z^{-2}}{1 - 0.75z^{-1} + 0.125z^{-2}}$$

$$b_0 = 1$$

$$a_1 = 0.75$$

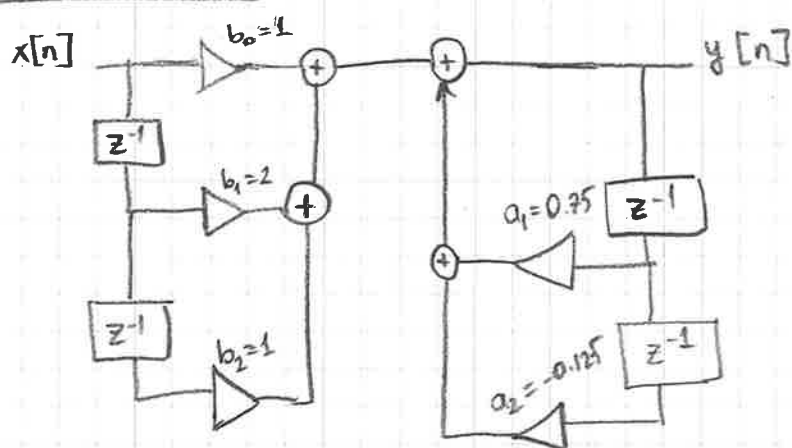
$$b_1 = 2$$

$$a_2 = -0.125$$

$$b_2 = 1$$

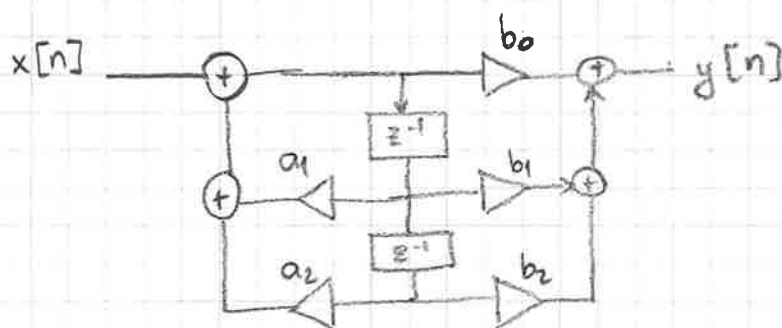
$$y[n] = 1 \cdot x[n] + 2x[n-1] + 1 \cdot x[n-2] + 0.75y[n-1] - 0.125y[n-2]$$

Direct Form 1



4 multipliers
4 adders
4 delay blocks

Direct Form 2



4 multipliers
4 adders
2 delay blocks