

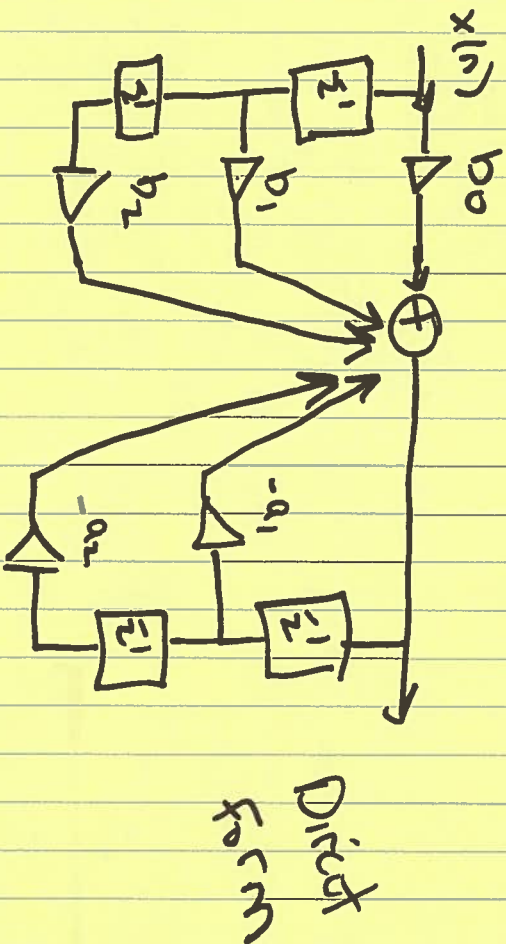
Digital Filter Realizations

$$H(z) = \frac{b_0 + b_1 z^{-1} + b_2 z^{-2}}{1 + a_1 z^{-1} + a_2 z^{-2}} = \frac{y(z)}{x(z)}$$

$$y(z) [1 + a_1 z^{-1} + a_2 z^{-2}] = x(z) [b_0 + b_1 z^{-1} + b_2 z^{-2}]$$

$$y(z) = -a_1 z^{-1} y(z) - a_2 z^{-2} y(z) + x(z) b_0 + b_1 z^{-1} x(z) + b_2 z^{-2} x(z)$$

$$y(n) = -a_1 y(n-1) - a_2 y(n-2) + b_0 x(n) + b_1 x(n-1) + b_2 x(n-2)$$



double dir (ist  $M$ , double  $a$ , ist  $L$ ...)

flood  $a[L]$ ,

sum = dir ( $M, a$ ...)

$$H(z) = \frac{N(z)}{D(z)} = \frac{1}{D(z)} \cdot \frac{N(z)}{1}$$