

② Calcul de  $G_1(z)$

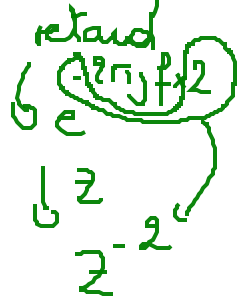
1<sup>re</sup> méthode

$$G_1(z) = \frac{Y(z)}{X(z)}$$

$$\Rightarrow y(n] = \frac{x(n] + x(n-2]}{2}$$

$$\stackrel{\text{b}}{\text{TZ}} Y(z) = \frac{X(z)}{2} + \frac{z^{-2} X(z)}{2}$$

$$\text{TZ}(x(n-2]) = z^{-2} X(z)$$



$$G_1(z) = \frac{Y(z)}{X(z)} = \frac{1 + z^{-2}}{2}$$

2<sup>e</sup> méthode

$$y(n] = g_1(n] * x(n]$$

$$= \frac{x(n]}{2} + \frac{\delta(n-2] * x(n]}{2}$$

$$= x(n] * \underbrace{\left( \frac{1}{2} + \frac{1}{2} \delta(n-2] \right)}_{g_1(n]}$$

$$G_1(z) = \text{TZ}(g_1(n])$$

$$= \text{TZ}\left(\frac{1}{2}\right) + \text{TZ}\left(\frac{1}{2} \delta(n-2]\right)$$

$$G_1(z) = \frac{1}{2} + \frac{1}{2} z^{-2} \rightarrow \text{Pas de P\^ole}$$