

\* Menca y(k) dengan PERS. DIFFERENCE

$$x(t) = u(t) \rightarrow X(s) = \frac{1}{s}, \quad X(z) = \frac{z}{z-1}$$

$$x(k) = \begin{cases} 0, & k < 0 \\ 1, & k \geq 0 \end{cases}$$

| k | x(k) | y(k) |
|---|------|------|
| 0 | 1    |      |
| 1 | 1    |      |
| 2 | 1    |      |
| 3 | 1    |      |
| ; |      |      |

$$G(z) = \frac{0,16484}{z - 0,67032} = \frac{Y(z)}{X(z)}$$

Prosedur: \* Bagi pembilang dan penyebut G(z) dengan z pangkat tertinggi:

$$G(z) = \frac{0,16484 z^{-1}}{1 - 0,67032 z^{-1}} = \frac{Y(z)}{X(z)}$$

\* Perkalian silang

$$Y(z) - 0,67032 z^{-1} Y(z) = 0,16484 z^{-1} X(z)$$

\* Transf. z inverse:

$$y(k) - 0,67032 y(k-1) = 0,16484 x(k-1)$$

\* Pers. diff.

$$y(k) = 0,67032 y(k-1) + 0,16484 x(k-1)$$

| k | x(k) | y(k)                                           |
|---|------|------------------------------------------------|
| 0 | 1    | $y(0) = 0,67032 y(-1) + 0,16484 x(-1) = 0$     |
| 1 | 1    | $y(1) = 0,67032 y(0) + 0,16484 x(0) = 0,16484$ |
| 2 | 1    | $y(2) = 0,67032 y(1) + 0,16484 x(1) = 0,27533$ |
| 3 | 1    | $y(3) = 0,67032 y(2) + 0,16484 x(2) = 0,34489$ |
| ; |      |                                                |