3

$u_{n+2} - 6u_{n+1} + 9u_n = 0 \qquad \forall n \geq 0$

¿Sol. particular para $u_0 = 1$ y $u_1 = 6$?

$k = 2$

Ec. caract: $x^2 - 6x + 9 = 0 = (x-3)^2$

Sol. general: $\boxed{x_n = (c_1 + c_2 n) 3^n}$

Particularizando:

$1 = u_0 = (c_1 + c_2 \cdot 0) \cdot 3^0 = \boxed{c_1}$

$6 = u_1 = (c_1 + c_2 \cdot 1) 3^1 = 3c_1 + 3c_2 = 3 + 3c_2 = 6 \Rightarrow \boxed{c_2 = 1}$

$\boxed{x_n} = (1+n) 3^n = \boxed{3^n + n3^n}$