PROBLEMA 05.

- $\frac{du}{dt} = f(t,u) = \alpha u \quad ; \quad u(0) = u_0.$

- $h = t_k - t_{k-1} = \Delta t.$

- $t_k = kh. = k\Delta t.$

CASO BASE

- $u_1 = u_0 + hf(t=0) = u_0 + \Delta t\, \alpha u_0 = u_0 \left[1 + \alpha \Delta t\right]$

~~PASO INDUCTIVO~~ HIPÓTESIS DE INDUCCIÓN

- $u_{k-1} = u_0 \left[1 + \alpha \Delta t\right]^{k-1}$

~~PASO INDUCTIVO~~ PASO INDUCTIVO

- $u_k = u_{k-1} + hf(t_{k-1}) = u_{k-1} \left[1 + \alpha \Delta t\right] = u_0 \left[1 + \alpha \Delta t\right]^k$