Taller 9

- $f(0,6)$

$f(0,6) = -7.1924$

$h = x_{i+1} - x_i$

$x_i = 0,5$

$-x_{i+1} = -h - x_i$

$h = 0,1$

$x_{i+1} = h + x_i$

$(x_{i+1}) = 0,6$

orden 0

$f(x_i) = f(0,0) = 1,1(0,5)^3 - 1,75(0,5)^2 + 2(0,5) - 8 = -\dfrac{73}{10} = -7.3$

orden 1

$f(0,6) \cong -\dfrac{73}{10} + 3,3(0,5)^2 - 3,5(0,5) + 2(0,6 - 0,5) = \cancel{\text{resultado}} -7.1925$

orden 2

$f(0,6) \cong \cancel{-7.1925} + \dfrac{6,6(0,5) - 3,5}{2!}(0,6 - 0,5)^2 = \cancel{\text{resultado}} -7.1935$

$\qquad\qquad\qquad \downarrow$

$\qquad\qquad -7.1925$

orden 3

$f(0,6) \cong -7.1935 + \left(\dfrac{6,6}{3!}\right)(0,1)^3 = -7,1924$

2)

$$f(0,55) \quad f(0,55) = 1,9 e^{(0,55)} - 3,5(0,55) + 2,75 = 4.118180734$$

$x_i = 0,5$

$h = 0,05$

$$f(0,55) \cong 1,9 e^{(0,5)} - 3,5(0,5) + 2,75 = 4.132570414$$

$$f(0,55) \cong 4.132570414 + (1.9 e^{(0,5)} - 3,5)(0,05) = 4.114198935$$

$$f(0,55) \cong 4114198935 + \frac{(1.9 e^{(0,5)})}{2!}(0.05)^2 = 4.118114648$$

$$f(0,55) \cong 4.118114648 + \left(\frac{1.9 e^{(0,5)}}{3!}\right)(0.05)^3 = 4118117991$$

$$f(0,55) \cong 4.118117991 + \left(\frac{1.9 e^{(0,5)}}{4!}\right)(0.05)^4 = 4.118197041$$