

Derivación 8 (Teórico)

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$$\Omega = [(x_0, fx(x_0)), (x_1, fx(x_1)), (x_2, fx(x_2))]$$

Iteración 1

$$L_0(x) = \frac{(x-x_1)(x-x_2)}{(x_0-x_1)(x_0-x_2)} = \frac{x^2 - xx_2 - xx_1 + x_1x_2}{x_0^2 - x_0x_2 - x_0x_1 + x_1x_2}$$

Iteración 2

$$L_1(x) = \frac{(x-x_0)(x-x_2)}{(x_1-x_0)(x_1-x_2)} = \frac{x^2 - xx_0 - xx_2 + x_0x_2}{x_1^2 - x_1x_2 - x_1x_0 + x_0x_2}$$

Iteración 3

$$L_2(x) = \frac{(x-x_1)(x-x_0)}{(x_2-x_0)(x_2-x_1)} = \frac{x^2 - xx_1 - xx_2 + x_0x_1}{x_2^2 - x_1x_2 - x_2x_0 + x_0x_1}$$

Polinomio interpolador:

$$P(x) = f(x_0) \frac{(x-x_1)(x-x_2)}{(x_0-x_1)(x_0-x_2)} + f(x_1) \frac{(x-x_0)(x-x_2)}{(x_1-x_0)(x_1-x_2)} + f(x_2) \frac{(x-x_1)(x-x_0)}{(x_2-x_0)(x_2-x_1)}$$