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Segunda Derivada finita hacia atrás

① $f(x_i-1) = f(x_i) + f'(x_i)(h) + \frac{f''(x_i)h^2}{2!}$

② $f(x_i-2) = f(x_i) + f'(x_i)(2h) + \frac{f''(x_i)}{2!}(2h)^2$

Multiplicamos ① (-2)

$-2f(x_i-1) = -2f(x_i) - 2f'(x_i)(h) - \frac{2f''(x_i)h^2}{2}$

+

$f(x_i-2) = f(x_i) + f'(x_i)(2h) + \frac{f''(x_i)(2h)^2}{2!}$

$f(x_i-2) - 2f(x_i-1) = -f(x_i) + \frac{2f''(x_i)(h^2)}{2!} + \frac{f''(x_i)(h^2)}{2!}$

Despejamos $f''(x_i)$

$$f''(x_i) = \frac{f(x_i-2) - 2f(x_i-1) + f(x_i)}{h^2}$$

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