

Tugas! N.6 Maju

Diketahui data-data berikut: $(0, -6)$; $(2, 4)$; $(4, 10)$
tentukan perkiraan dari $f(1)$

penyelesaian: * Maju.

$$f(x) \approx P_2(x) = f(x_0) + \Delta f(x_0) \cdot s + \frac{\Delta^2 f(x_0)}{2!} \cdot s(s-1)$$

x	$f(x_0)$	$\Delta f(x_0)$	$\Delta^2 f(x_0)$
0	-6	10	
2	4	6	-4
4	10		

$h = 2$
 $S_0 = \frac{x-0}{2} = \frac{x}{2}$
 $S_{du} = \frac{x-4}{2}$

$$f(x) \approx -6 + 10 \frac{x}{2} + \frac{-4}{2} \left(\frac{x}{2}\right) \left(\frac{x}{2} - 1\right)$$

$$f(1) \approx -6 + 10 \frac{1}{2} + \frac{-4}{2} \left(\frac{1}{2}\right) \left(\frac{1}{2} - 1\right)$$

$$\approx -6 + 5 + \frac{1}{2}$$

$$\approx -\frac{1}{2} \sqrt{-0,5}$$

* Mundur

$$f(x) \approx P_2(x) = f(x_2) + \Delta f(x_2) \cdot s + \frac{\Delta^2 f(x_2)}{2!} s(s+1)$$

$$= 10 + 6 \left(\frac{x-4}{2}\right) + \frac{-4}{2} \left(\frac{x-4}{2}\right) \left(\frac{x-4}{2} + 1\right)$$

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$$f(1) \approx 10 + 6 \left(\frac{1-4}{2} \right) + \frac{-4}{2} \left(\frac{1-4}{2} \right) \left(\frac{1-4}{2} + 1 \right)$$

$$\approx 10 + 6 \left(\frac{-3}{2} \right) + \frac{-4}{2} \left(\frac{-3}{2} \right) \left(\frac{-3}{2} + 1 \right)$$

$$\approx -0,5$$