

ORIGIN := 1

a := $\begin{pmatrix} 28.35 \\ 32.6 \\ 37.48 \\ 43.09 \\ 49.54 \\ 56.96 \\ 65.49 \\ 75.29 \\ 86.58 \\ 99.54 \end{pmatrix}$

t := $\begin{pmatrix} 6000 \\ 6250 \\ 6500 \\ 6750 \\ 7000 \\ 7250 \\ 7500 \\ 7750 \\ 8000 \\ 8250 \\ 8500 \end{pmatrix}$

x := $\begin{array}{l} \text{for } i \in 1 \dots \text{rows}(a) \\ \quad \text{break if } i = \text{rows}(a) \\ \quad x_i \leftarrow \ln\left(\frac{a_{i+1} + a_i}{2}\right) \\ x \end{array}$

y := $\begin{array}{l} \text{for } i \in 1 \dots \text{rows}(a) \\ \quad \text{break if } i = \text{rows}(a) \\ \quad y_i \leftarrow \ln\left(\frac{a_{i+1} - a_i}{t_{i+1} - t_i}\right) \\ y \end{array}$

x = $\begin{pmatrix} 3.42 \\ 3.56 \\ 3.7 \\ 3.84 \\ 3.97 \\ 4.11 \\ 4.25 \\ 4.39 \\ 4.53 \end{pmatrix}$

y = $\begin{pmatrix} -4.07 \\ -3.94 \\ -3.8 \\ -3.66 \\ -3.52 \\ -3.38 \\ -3.24 \\ -3.1 \\ -2.96 \end{pmatrix}$

$$[b_1] := \frac{\frac{\sum_{j=1}^{\text{rows}(x)} (x_j \cdot y_j)}{\text{rows}(x)} - \frac{\sum_{j=1}^{\text{rows}(x)} x_j}{\text{rows}(x)} \cdot \frac{\sum_{j=1}^{\text{rows}(y)} y_j}{\text{rows}(y)}}{\frac{\sum_{j=1}^{\text{rows}(x)} (x_j)^2}{\text{rows}(x)} - \left(\frac{\sum_{j=1}^{\text{rows}(x)} x_j}{\text{rows}(x)} \right)^2}$$

$$[b_1] = 0.999908$$

$$[b_0] := \frac{\sum_{j=1}^{\text{rows}(y)} y_j}{\text{rows}(y)} - [b_1] \cdot \frac{\sum_{j=1}^{\text{rows}(x)} x_j}{\text{rows}(x)}$$

$$[b_0] = -7.492$$

$$\text{mean}(y) - 1.000581 \cdot \text{mean}(x) = -7.495$$