AI - assignment-2 19K41A05D7

$f(x) = x^4 + 3x^2 + 10$

$\frac{\partial}{\partial x}(x^4 + 3x^2 + 10) = f$

$4x^3 + 6x + 0 = f(\text{grad})$ $f = 156.25$

assume

learning rate $= 0.01$ $x_0 = 3.25$

it-1 :-

$x_1 = x_0 - (\text{learning rate} \times \text{grad} f)$

$= 3.25 - (0.01 \times 156.25)$

$= 3.25 - 1.5625$

$= 1.6875$

it-2

$x_2 = x_1 - (\text{learning rate} \times \text{grad} f)$

$= 1.6875 - (0.01 \times 156.25)$

$= 0.125$

⋮

so on

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