Newton's method

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1 Introduce

1.1 Newton's method

Newton's method in optimization is a numeric method and is used to find local extrema/roots in a defined, differentiable function f. In this method we need to construct a sequence x_n from initial point x_0 to x_* such that $f'(x_*) = 0$. Last point is a local extremum point which we are looking for.

1.1.1 The Newton's method iteration

Let x_0 be a point