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**Algorithm 1** Gradient descent (scalar function of a single scalar variable)

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1:  $x_0 \leftarrow$  starting value

2:  $f_0 \leftarrow f(x_0)$  ▷ Evaluate  $f$  at  $x_0$

3: **while**  $f_n \neq g$  **do**

4:      $s_i \leftarrow \frac{df}{dx}(x_i)$  ▷ Compute slope

5:      $x_{i+1} \leftarrow x_i + \beta (g - f_i) \frac{1}{s_i}$  ▷ Take a step along  $\Delta x$

6:      $f_{i+1} \leftarrow f(x_{i+1})$  ▷ Evaluate  $f$  at new  $x_{i+1}$

7: **end while**

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