

$$\begin{aligned}
f''(x) &= \frac{1}{2h} (Df(x+h, h) - Df(x-h, h)) \\
&= \frac{1}{2h} \left[\frac{f(x+h+h) - f(x+h-h)}{2h} + O(h^2) - \frac{f(x-h+h) - f(x-h-h)}{2h} + O(h^2) \right] + O(h^2) \\
&= \frac{1}{2h} \left[\frac{1}{2h} [f(x+2h) - f(x) - f(x) + f(x-2h)] + O(h^2) + O(h^2) \right] + O(h^2) \\
&= \frac{f(x+2h) - 2f(x) + f(x-2h)}{4h^2} + O(h^2)
\end{aligned}$$