Punto 1

Entonces $\Rightarrow \quad Df(x_i) = \frac{f(x_{i+1}) - f(x_{i-1})}{2h} + O(h^2)$

ahora $\rightarrow \quad D^2 f(x_i) = \frac{f'(x_{i+1}) - f'(x_{i-1})}{2h} + O(h^2)$

$$\Rightarrow D^2 f(x_i) = \frac{\frac{f(x_i+2) - f(x_i)}{2h} + \frac{f(x_i-2) - f(x_i)}{2h}}{2h} + O(h^2)$$

$$= \frac{f(x_{i+2}) - 2f(x_i) + f(x_i-2)}{4h^2} + O(h^2)$$

$$\boxed{D^2 f(x_i) \Rightarrow \frac{f(x_{i+2}) - 2f(x_i) + f(x_i-2)}{4h^2} + O(h^2)}$$