Class: 1) solve the following Taylor series expansion for y_i'

$$y(x-x_0) = y_0 + (x-x_0)y_0' + \frac{(x-x_0)^2}{2!}y_0'' + \frac{(x-x_0)^3}{3!}y_0^{(3)} + \frac{(x-x_0)^4}{4!}y_0^{(4)} + ...$$

using $x_{i+1} - x_i = h$ and setting $y_{i+1} = y$ and $y_i = y_0$. Then 2) answer - what is the leading truncation error for this numerical derivative?