

$$f(t,y) = -2ty^2$$

Note Title

$$\frac{\partial f}{\partial y}(t,y) = -4ty$$

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$$y_{n+2} - \frac{4}{3}y_{n+1} + \frac{1}{3}y_n = h \frac{2}{3} f(t_{n+2}, y_{n+2})$$

$$= h \frac{2}{3} t_{n+2} y_{n+2}^2 \cdot (-2)$$

$$g(y) = 0$$

$$y_{n+2} - \frac{4}{3}y_{n+1} + \frac{1}{3}y_n - h \frac{2}{3} f(t_{n+2}, y_{n+2}) = 0$$

$$g(y) = y - \frac{4}{3}y_{n+1} + \frac{1}{3}y_n - h \frac{2}{3} f(t_{n+2}, y)$$

cerco un zero di  $g(y)$

$$\frac{dg}{dy} = 1 - h \cdot \frac{2}{3} \cdot \frac{\partial f}{\partial y}(t_{n+2}, y)$$

$$f = f(t,y) = -2 * t * y^2;$$

$$\vdots$$

$$Y = [y_0 \ y_1 \ y_2 \ \dots \ y_n] \in \mathbb{R}^{1 \times (n+1)}$$

$Y(n)$  no  $n$ -esimo elemento  
 $Y(:,n)$

