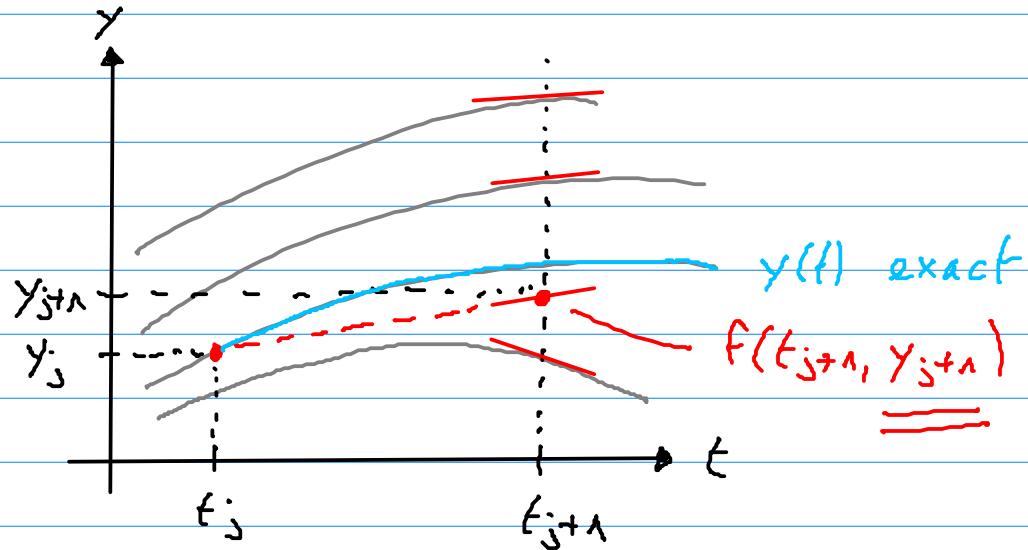


A different possibility



We obtain the implicit Euler method (IE)

$$\underline{y_{j+1}} = y_j + h \cdot \underline{f(t_{j+1}, y_{j+1})}$$

03.10.24

A.k.a. backward Euler

Need to solve
for y_{j+1} !
no implicit

Ex.: (6) $\dot{y}(t) = -y(t) + 2 \cdot \cos(t)$

$$y(0) = 1$$

~ Slides (Euler Methods)

Rem.: For systems of ODEs, just replace
 y, f by \vec{y}, \vec{f}