

$$y'(t) \approx \frac{y(t+h) - y(t)}{h}$$

Using this approximation in the initial value problem leads to

$$y(t+h) = y(t) + hf(t, y(t))$$

and this provides us with an iteration of the form

$$y_{n+1} = y_n + hf(t_n, y_n)$$

This means by sub-dividing the interval $[a, b]$ into steps $\{t_0, t_1, \dots, t_m\}$ with step-size h , above iteration lets us estimate the values of y at these steps.