

## Algorithm: Runge Kutta 4th order

- Read  $x_0, y_0, x_n, h$
- While ( $x_0 \leq x_n$ ) do
  - Print  $x_0, y_0$
  - $k_1 = h * f(x_0, y_0)$
  - $k_2 = h * f(x_0 + 0.5 * h, y_0 + 0.5 * k_1)$
  - $k_3 = h * f(x_0 + 0.5 * h, y_0 + 0.5 * k_2)$
  - $k_4 = h * f(x_0 + h, y_0 + k_3)$
  - $k = (k_1 + 2 * k_2 + 2 * k_3 + k_4) / 6$
  - $x_0 = x_0 + h$
  - $y_0 = y_0 + k$
- Print  $x_0, y_0$

END