

Runge Kutta Method

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4th order RUNGE-KUTTA

- It finds an approximation of y for a given x .
- It works by approximating the solution of an ODE at discrete step using weighted average of function evaluations at multiple intermediate points between those time steps.
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General Form

$$y_{n+1} = y_n + h * (k_1 + 2 * K_2 + 2 * k_3 + k_4)$$

- The values of K_i are calculated as follows:

The value of K_1

$$k_1 = f(t_n, y_n)$$

The value of K_2

$$k_2 = f(t_n + (h/2), y_n + (h/2) * k_1)$$

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