

Initial Conditions

calculation table:

index	time	x_1	x_2	x_3	...	x_n	$F(\dots)$
1	t_0	x_{10}	x_{20}	x_{30}	...	x_{n0}	solve equ.
2	$t_0 + \Delta t$	<div style="border: 1px solid black; padding: 10px; text-align: center;"> Numerical Method </div>					...
...	...						
i	$t_0 + (i-1)\Delta t$						

initial conditions:

t_0 = start time (usually $t_0 = 0$)

x_{10} = initial value = $y|_{t_0}$ (example: position)

x_{20} = initial 1st derivative = $\frac{dy}{dt}|_{t_0}$ (example: velocity)

x_{30} = initial 2nd derivative = $\frac{d^2y}{dt^2}|_{t_0}$ (example: acceleration)

⋮