

Notations

The following notations are used in this note:

Partial Derivatives

The partial derivative of a multivariate function $u(x, t)$ with respect to t can be represented as:

$$\partial_t u = \frac{\partial u}{\partial t} = u_t$$

For a second derivative,

$$\partial_t^2 u = \frac{\partial^2 u}{\partial x^2} = u_{tt}$$