

Another big rectangle example

$$\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} \quad (0 < x < L, \quad 0 < y < 1),$$

$$\frac{\partial u}{\partial y}(t, x, 0) = 0, \quad \frac{\partial u}{\partial y}(t, x, 1) = b(x),$$

$$u(t, 0, y) = a(y), \quad u(t, L, y) = 0,$$

$$u(0, x, y) = 0.$$