

Laborator 7. EDP

Solve

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

with the boundary conditions

$$u(0, y) = 0, \quad u(2, y) = 2e^y, \quad 0 \leq y \leq 1,$$

$$u(x, 0) = x, \quad u(x, 1) = ex, \quad 0 \leq x \leq 2.$$