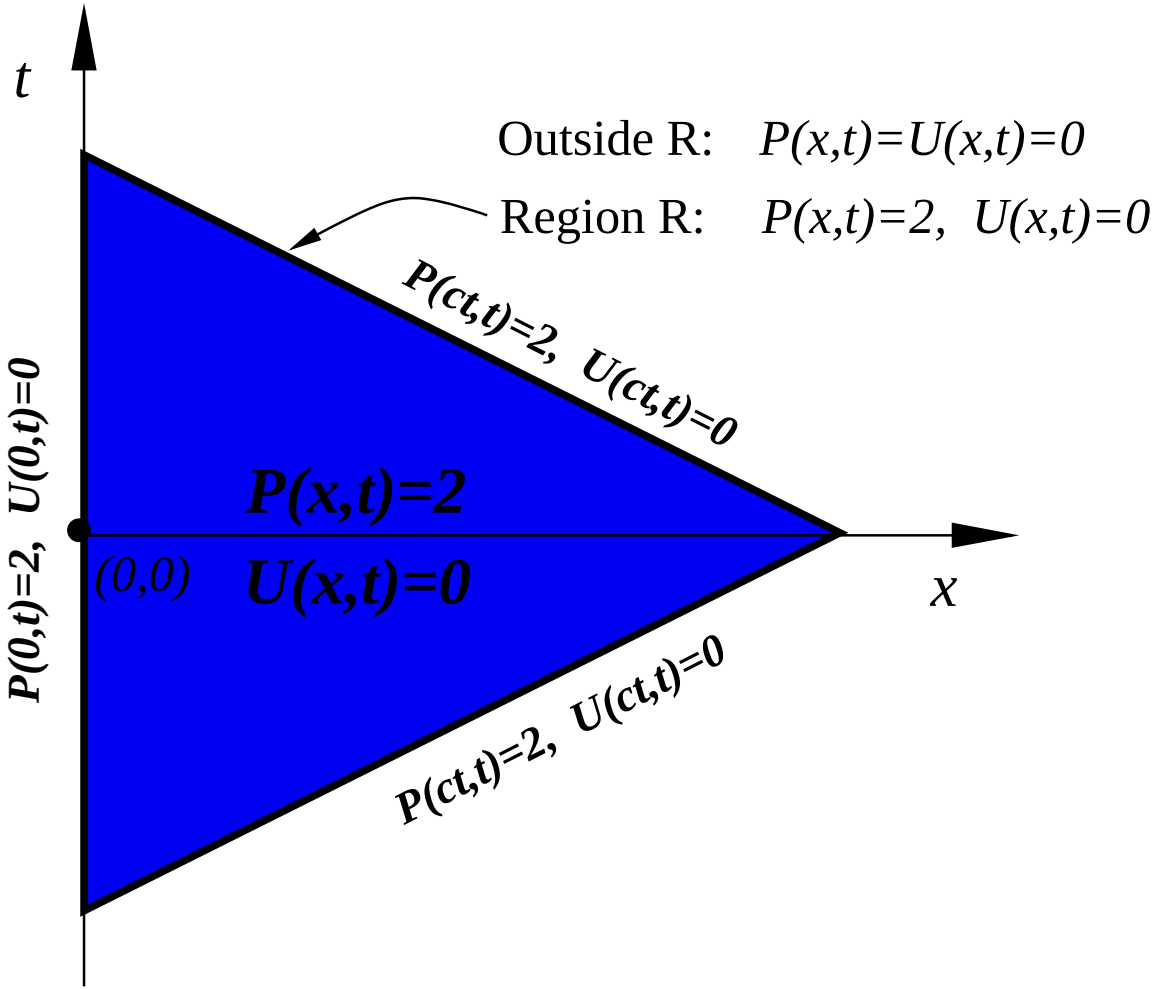Cauchy problem: Boundary conditions and solution