Partial differential equations (PDEs) are equations that involve unknown multivariable functions and their partial derivatives, with respect to two or more independent variables. PDEs are used to describe a wide variety of phenomena such as sound, heat, electrostatics, electrodynamics, fluid flow, elasticity, and quantum mechanics. They are also used in mathematical models for many engineering and physics fields. The general form of a partial differential equation is: a partial derivative of a function of several variables with respect to one of those variables (the independent variable) is equal to some function of the same variables. Solving PDEs involves finding equations that describe the behavior of the function over the entire domain of the equation.