

Numerical Methods to Solve Differential Equations

The methods used to solve differential equations are:

1. Finite Difference Method (FDM)
 2. Finite Element Method (FEM)
 3. Finite Volume Method (FVM)
- 1.** Finite Difference Method (FDM)

Works directly with the differential equation by replacing derivatives by their discrete counterparts.

$$\frac{du}{dt} = \frac{y_{i+1} - y_i}{x_{i+1} - x_i}$$