Numerical solution of second order neutral delay differential equation of constant type

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This research will discuss the implementation of fourth order predictor-corrector method in the form of Adams-Bashforth and Adams-Moulton types to solve second order neutral delay differential equation of constant type directly. In the code, the second order delay differential equation is not reduced to system of first order delay differential equations. This method will approximate the solutions using constant step size approach. The formulation and stability analysis are discussed. The delay solutions for the unknown function and its derivative are interpolated using the previous computed values. Numerical results are presented to show that the proposed method are suitable for solving second order neutral delay differential equations of constant type directly.

Key-Words: - pantograph type, neutral delay differential equations, directly