Abstract: This paper presents Differential Transformation Method (DTM) and Picard’s Iterative Method (PIM) as computational techniques in solving linear and nonlinear differential equations. For numerical analysis of the methods, three examples are considered. The results obtained are compared with their corresponding exact solutions. A link between successive terms of the solutions using the two methods is noted. The DTM is very effective and reliable in obtaining approximate solutions. The PIM requires the satisfaction of Lipschitz continuity condition; though, its results also converge rapidly to the exact solutions.

Keywords: differential transform; Picard’s iteration; differential equation; Lipschitz constant.

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REFERENCES