

## **New computational method for solving ordinary differential equations**

### **ABSTRACT**

In this paper we present a developed couple block method for solving first order ordinary differential equations (ODEs). The coupled block method consists of two proposed block methods for example the two point two step block method of order five and three point two step block method of order six. Therefore, these methods will estimate the numerical solutions at two and three points simultaneously within a block. The proposed block method is derived using Lagrange interpolation polynomial and is presented as in the simple form of the Adams Moulton type. The developed code is implemented using variable step size and order. The stability of the methods is also studied. Numerical results are presented to compare the performance of the developed code to the existence block method.

**Keyword:** Ordinary differential equations; Block method; Variable step size and order