

**SOLVING FIRST ORDER ORDINARY DIFFERENTIAL
EQUATION USING HIGHER ORDER
RUNGE – KUTTA METHOD**

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DECLARATION BY CANDIDATE

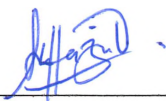
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ABSTRACT

Runge – Kutta method can be used to solve differential equation problem in the form of numerical method. Researchers have come out with many versions of Runge – Kutta method to increase its accuracy and efficiency. In this study, higher order Runge – Kutta method of RK 6 (Butcher – 1, Butcher – 2, Butcher – 3 and Luther), RK 7 and RK 8 are used to solve different ordinary differential equation problems with different step size. The numerical results are compared with theoretical solution in order to obtain accuracy and to determine the best method.

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