**2.1)**



==============================================================================

**Method Step Size y(6) Error**

Exact Solution 0.125 16.750556815368331 0.000000000000000

Euler's Method 0.125 16.445640193241857 0.304916622126473

Improved Euler's Method 0.125 16.736322758260275 0.014234057108055

Second-Order Taylor Series 0.125 16.758140193241861 0.007583377873530

Fourth-Order Taylor Series 0.125 16.750399126497587 0.000157688870743

==============================================================================

**2.2) Plotting Convergence**

**Euler’s Method Improved Euler’s Method**



**2nd Order Taylor Series 4th Order Taylor Series**

****

**2.3) Plotting Error**

