The exponential function

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1 Introduction

The exponential function is a mathematical function. The function is denoted by $f(x) = \exp(x)$ of e^x. Its ubiquitous occurrence in pure and applied mathematics led mathematician Walter Rudin to opine that exponential function "*the most importent function in mathematics*".(wiki)

2 Math

The exponential function can be implemented by a "quick-and-dirty" method:

$$\exp(x) = \sum_{k=0}^{\infty} \frac{x^k}{k!} = 1 + x + \frac{x^2}{2} + \frac{x^3}{6} + \frac{x^4}{24} + \cdots \quad (1)$$

Here the leading 10 orders has been included. In order to validate the function in equation (1), has the exponential function been compared to table values. This can be seen on figure 1.

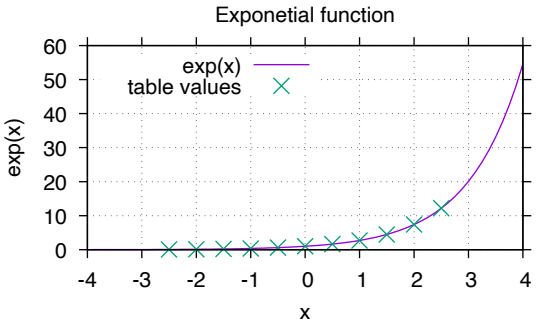

Figure 1: Validation of the exponetial function.