Exponential Series.

For $x \in R$, $e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + ... + \frac{x^r}{r!} + ...\infty$ or $e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}$

The above series known as exponential series and e^x is called exponential function. Exponential function is also denoted by exp. i.e. $\exp A = e^A$; $\therefore \exp x = e^x$