1 | **Talyor Series def**

A Taylor series is a (possibly infinite) polynomial that approximates a function around a neighborhood (often, 0).

The function has to be differentiable as many times as there are terms in the approximation. If the function is differentiable forever, then you can compute the value exactly using an infinite sum.

For some function $f(x)$, the Taylor series approximation near c is as follows:

$$f(x) = f(c) + f'(c)(x-c) + \frac{f''(c)}{2!}(x-c)^2 + \cdots + \left(\frac{d^n}{dx^n}f(c)\right)(x-c)^n$$