Taula de polinomis de Taylor

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\begin{aligned}
e^x &= \sum_{n=0}^{N} \frac{x^n}{n!} + o(x^N) = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \cdots + \frac{x^N}{N!} + o(x^N) \\
\cosh x &= \sum_{n=0}^{N} \frac{x^{2n}}{(2n)!} + o(x^{2N+1}) = 1 + \frac{x^2}{2!} + \frac{x^4}{4!} + \cdots + \frac{x^{2N}}{(2N)!} + o(x^{2N+1}) \\
\sinh x &= \sum_{n=0}^{N} \frac{x^{2n+1}}{(2n+1)!} + o(x^{2N+2}) = x + \frac{x^3}{3!} + \frac{x^5}{5!} + \cdots + \frac{x^{2N+1}}{(2N+1)!} + o(x^{2N+2}) \\
\cos x &= \sum_{n=0}^{N} \frac{(-1)^n}{(2n)!} x^{2n} + o(x^{2N+1}) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} + \cdots + (-1)^N \frac{x^{2N}}{(2N)!} + o(x^{2N+1}) \\
\sin x &= \sum_{n=0}^{N} \frac{(-1)^n}{(2n+1)!} x^{2n+1} + o(x^{2N+2}) = x - \frac{x^3}{3!} + \frac{x^5}{5!} + \cdots + (-1)^N \frac{x^{2N+1}}{(2N+1)!} + o(x^{2N+2}) \\
\frac{1}{1+x} &= \sum_{n=0}^{N} (-1)^n x^n + o(x^N) = 1 - x + x^2 - x^3 + \cdots + (-1)^N x^N + o(x^N) \\
\ln(1+x) &= \sum_{n=1}^{N} \frac{(-1)^{n+1}}{n} x^n + o(x^N) = x - \frac{1}{2}x^2 + \frac{1}{3}x^3 + \cdots + \frac{(-1)^{N+1}}{N} x^N + o(x^N) \\
\arctan x &= \sum_{n=0}^{N} \frac{(-1)^n}{2n+1} x^{2n+1} + o(x^{N+2}) = x - \frac{1}{3}x^3 + \frac{1}{5}x^5 + \cdots + \frac{(-1)^N}{2N+1} x^{2N+1} + o(x^{2N+2}) \\
(1+x)^\alpha &= \sum_{n=0}^{N} \binom{\alpha}{n} x^n + o(x^N) = 1 + \alpha x + \binom{\alpha}{2} x^2 + \cdots + \binom{\alpha}{n} x^N + o(x^N)
\end{aligned}
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