Taylorove rady niektorých elementárnych funkcií

$$a^x = \sum_{n=0}^{\infty} \frac{x^n \ln^n a}{n!} \quad \text{pre } x \in \mathbb{R},\ a > 0$$

$$\log(1-x) = -\sum_{n=1}^{\infty} \frac{x^n}{n} \quad \text{pre } |x| < 1$$

$$\log(1+x) = \sum_{n=1}^{\infty} (-1)^{n+1} \frac{x^n}{n} \quad \text{pre } |x| < 1$$

$$\frac{1}{1-x} = \sum_{n=0}^{\infty} x^n \quad \text{pre } |x| < 1$$

$$\frac{1}{(1-x)^2} = \sum_{n=0}^{\infty} n x^{n-1} \quad \text{pre } |x| < 1$$

$$\frac{x}{(1-x)^2} = \sum_{n=0}^{\infty} n x^n \quad \text{pre } |x| < 1$$

$$\frac{2}{(1-x)^3} = \sum_{n=0}^{\infty} (n-1) n x^{n-2} \quad \text{pre } |x| < 1$$

$$\frac{2x^2}{(1-x)^3} = \sum_{n=0}^{\infty} (n-1) n x^n \quad \text{pre } |x| < 1$$

$$(1+x)^\alpha = \sum_{n=0}^{\infty} \binom{\alpha}{n} x^n \quad \text{pre } |x| < 1$$

$$\frac{x}{1-x-x^2} = \sum_{n=0}^{\infty} F_n\, x^n \quad \text{pre } x \in \left(-\frac{1+\sqrt{5}}{2}, \frac{\sqrt{5}-1}{2}\right)$$

$$\sin x = \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n+1)!} x^{2n+1} \quad \text{pre } x \in \mathbb{R}$$

$$\cos x = \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n)!} x^{2n} \quad \text{pre } x \in \mathbb{R}$$

$$\tan x = \sum_{n=1}^{\infty} \frac{B_{2n}(-4)^n(1-4^n)}{(2n)!} x^{2n-1} \quad \text{pre } |x| < \frac{\pi}{2}$$

$$\sec x = \sum_{n=0}^{\infty} \frac{(-1)^n E_{2n}}{(2n)!} x^{2n} \quad \text{pre } |x| < \frac{\pi}{2}$$

$$\arcsin x = \sum_{n=0}^{\infty} \frac{(2n)!}{4^n (n!)^2 (2n+1)} x^{2n+1} \quad \text{pre } |x| \le 1$$

$$\log \frac{1+x}{1-x} = 2 \sum_{n=0}^{\infty} \frac{x^{2n+1}}{2n+1} \quad \text{pre } |x| \le 1$$

$$\arctan x = \sum_{n=0}^{\infty} \frac{(-1)^n}{2n+1} x^{2n+1} \quad \text{pre } |x| \le 1$$

$$\sinh x = \sum_{n=0}^{\infty} \frac{x^{2n+1}}{(2n+1)!} \quad \text{pre } x \in \mathbb{R}$$

$$\cosh x = \sum_{n=0}^{\infty} \frac{x^{2n}}{(2n)!} \quad \text{pre } x \in \mathbb{R}$$

$$\tanh x = \sum_{n=1}^{\infty} \frac{B_{2n} 4^n (4^n - 1)}{(2n)!} x^{2n-1} \quad \text{pre } |x| < \frac{\pi}{2}$$

$$\operatorname{arsinh}(x) = \sum_{n=0}^{\infty} \frac{(-1)^n (2n)!}{4^n (n!)^2 (2n+1)} x^{2n+1} \quad \text{pre } |x| \le 1$$

$$\operatorname{artanh}(x) = \sum_{n=0}^{\infty} \frac{x^{2n+1}}{2n+1} \quad \text{pre } |x| < 1$$

$$\frac{1}{\cosh(x)} = \sum_{n=0}^{\infty} \frac{E_n}{n!} x^n, \quad |x| < \frac{\pi}{2}$$

$$\binom{\alpha}{n} = \prod_{k=1}^{n} \frac{\alpha - k + 1}{k} \quad \text{je zovšeobecnený binomický koeficient}$$

$$F_n \ \text{ sú Fibonacciho čísla}, \quad F_n = F_{n-1} + F_{n-2},\ F_0 = 0,\ F_1 = 1$$

$$B_n \ \text{ sú Bernoulliho čísla}, \quad B_n = 1 - \sum_{k=0}^{n-1} \binom{n}{k} \frac{B_k}{n-k+1},\ B_0 = 1, \quad B_{2n+1} = 0,\ n = 1, \ldots$$

$$E_n \ \text{ sú Eulerove čísla}, \quad E_n = \sum_{k=1}^{n} \binom{n}{k-1} \frac{2^k - 4^k}{k} B_k \quad (n = 2, 4, 6, \ldots),\ E_{2n-1} = 0$$

$$\arcsin(x) + \arccos(x) = \pi/2$$

$$\arctan(x) + \operatorname{arccot}(\mathrm{x}) = \pi/2$$