CK0030: Partial evaluation II (2)

Exercise 01.

Consider the function $y(x) = \tan(x) + (1+x)e^x = \dfrac{\sin(x)}{\cos x} + e^x + xe^x$ and its approximation

$$y(x) \approx \frac{\sum_{k_1=0}^{K_1} \left[(-1)^{k_1} \dfrac{x^{(2k_1+1)}}{(2k_1+1)!}\right]}{\sum_{k_2=0}^{K_2} \left[(-1)^{k_2} \dfrac{x^{(2k_2+0)}}{(2k_2+0)!}\right]} + \sum_{n_1=0}^{N_1} \left\{[(n_1)!]^{-1} x^{n_1}\right\} + \sum_{n_2=0}^{N_2} \left[\frac{x^{n_2+1}}{(n_2)!}\right].$$

Write a program based on `FOR-loops` that implements the expression above:

- Use $x = \pi/3$, $K_1 = 4$, $K_2 = 4$, $N_1 = 8$ and $N_2 = 8$.