Lab 2: Tasks

Task 1

Use sympy to find 2th order derivative of

$$f(x) = x^5 + x^4$$

Task 2

Use taylor series around a = 0 to expand the following function:

$$f(x) = \cos(x)$$

$$cos(x) = \sum_{n=0}^{\infty} \frac{(-1)^n x^{2n}}{(2n)!}$$

Plot graph for 0, 2, 4, 6 order and find value and error at x = 1.5.

Task 3

Use bisection to find root of f(x) = $x^3 - x - 1$ in interval [1,2]