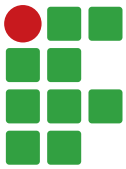

INSTITUTO FEDERAL
DE EDUCAÇÃO, CIÊNCIA E TECNOLOGIA
Minas Gerais
Campus Bambuí

BACHARELADO EM ENGENHARIA DE COMPUTAÇÃO

Sadi Martins de Castro Garcia Mendes

Raízes de Equações

Bambuí - MG
2025

Sumário

1 Lista

Exercício 1

Plote o gráfico e encontre um intervalo contendo uma única raiz das seguintes funções:

(a) $f(x) = \ln x$

(b) $f(x) = e^x$

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

(d) $f(x) = x^2 + 2x + 1$

(e) $f(x) = e^{(2-x^2)} \cdot (x+1)^2$

(f) $f(x) = x^3 + 3x - 1$

(g) $f(x) = x^2 + \sin(x)$

(h) $f(x) = e^x - x^2 - 10$

(i) $f(x) = \sqrt{x} - \cos(x)$

(j) $f(x) = x^{-3} - x$

Resolusão

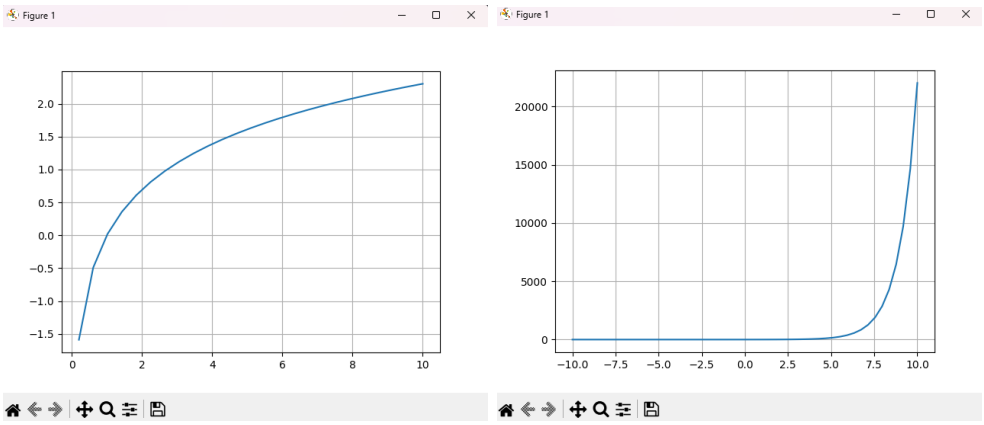

Figura 1 – $f(x) = \ln x$ || $f(x) = e^x$ intervalo(-10, 10)

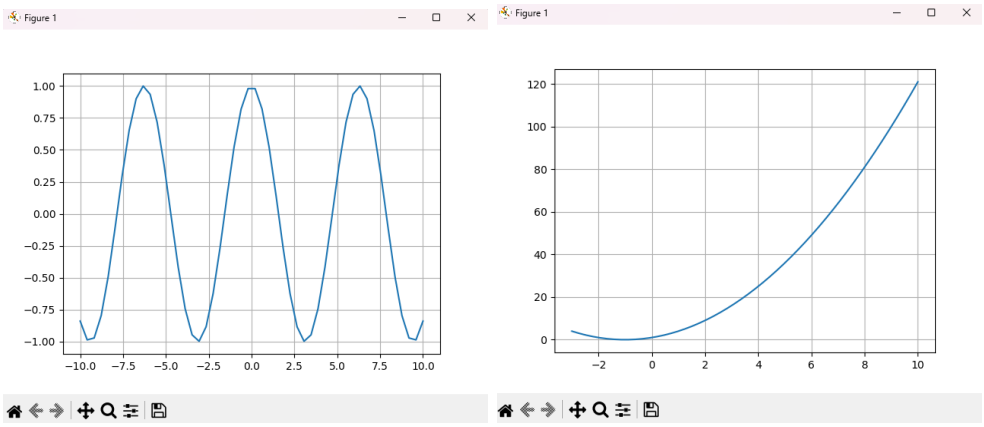

Figura 2 – $f(x) = \cos(x)$ || $f(x) = x^2 + 2x + 1$ intervalo(-10, 10) (-3, 10)

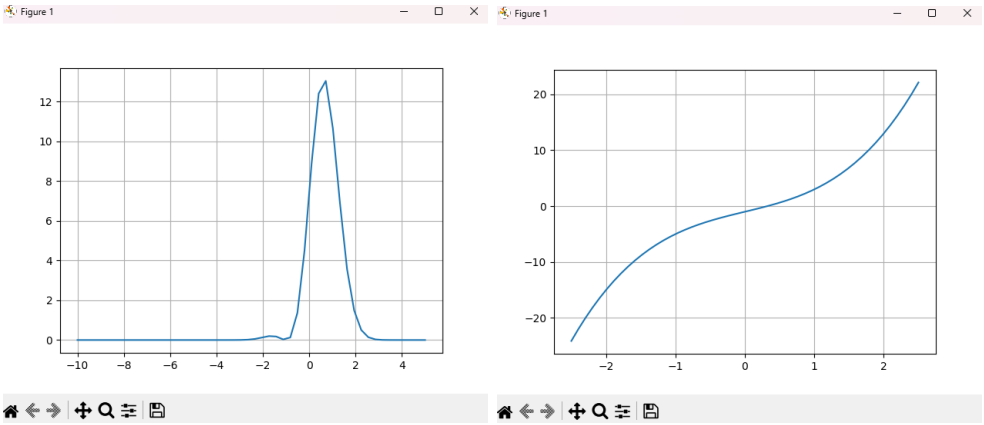

Figura 3 – $f(x) = e^{(2-x^2)} \cdot (x+1)^2$ || $f(x) = x^3 + 3x - 1$ intervalo(-10,5) (-2.5, 2.5)

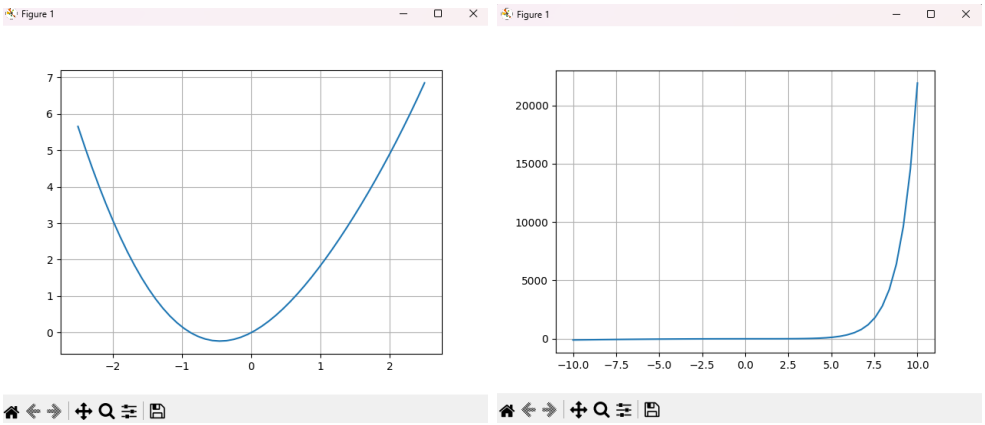

Figura 4 – $f(x) = x^2 + \sin(x)$ || $f(x) = e^x - x^2 - 10$ intervalo(-2.5, 2.5) (-10,10)

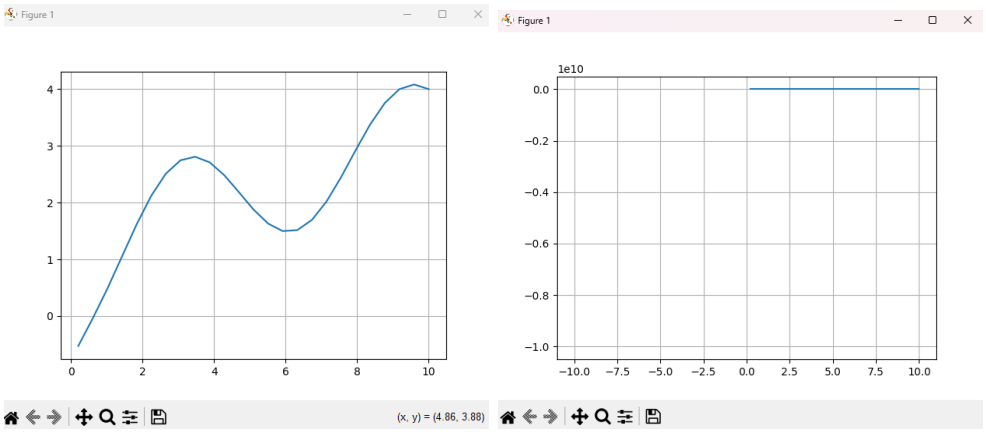

Figura 5 – $f(x) = \sqrt{x} - \cos(x)$ || $f(x) = x^{-3} - x$ intervalo(-10,10) (-10,10)