

Homework Assignment #8

Use **Matlab** to solve the following problems.

Given function

$$f(x) = e^x - 1.5 - \tan^{-1} x,$$

with $\text{tol} = 10^{-8}$,

1. plot the function in $f(x)$ versus x plane.
 2. use **Bisection method** to find a root in $[-20, -1]$, and mark the solution on the function plot.
 3. use **Newton method** to find a root in $[-20, -1]$, and mark the solution on the function plot.
 4. make a table to list different methods with the root found and their total iterations for comparison.
- (80% for correctness, 10% for programming writing, 10% for presentation)