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C

Answer

MATLAB

Command window

clc

clear all

close all

format long g

x(1) = 0.5;

k = 1;

tol = 1e-24;

max1 = 50;

err(1) = 0;

syms x

G = (exp(0.5 * x) * (4 - x)) - 2;

Gprime = diff(G)

for k = 2: max1;

x(k) = (x(k-1) - (subs(G, x(k-1))) / subs(Gprime, x(k-1)));

k = [k k];

err(k) = abs(x(k) - x(k-1))

if err(k) <= tol, break, end

end

table = [k' x' err']