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CIVIL ENGR

Command window

clear all

clc

format short g

$x(1) = 0.5;$

$K = 1;$

$tol = 1e-2i;$

$max1 = 50;$

$err(1) = 0;$

syms x;

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

$G' = \text{diff}(G);$

for $K = 2 : max1;$

$x(K) = (x(K-1) - (\text{subs}(G, x(K-1)) / \text{subs}(G_prime, x(K-1))));$

$K = [K K];$

$err(K) = \text{abs}(x(K) - x(K-1))$

if $err(K) \leq tol,$

break

end

end

Table = $[K' \cdot x' \cdot err]$