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CIVIL ENGINEERING

Assignment

commandwindow

clear all

clc

format short g

$x(1) = 0.5;$

$k = 1;$

$tol = 1e-2;$

$max1 = 50;$

$err(1) = 0;$

sym x

$G = (\exp(0.5 * x) * (4 - x))^{-2};$

$G_{prime} = \text{diff}(G)$

for $k = 2 : max1;$

$x(k) = (x(k-1) - (subs(G, x(k-1)) / subs(G_{prime}, x(k-1))));$

$x = [k, x];$

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

if $\text{error } err(k) <= tol, \text{break, end}$

end

$table = [k' x' err]$