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19/ENG01/017

CHEMICAL ENGINEERING

ENG 382 ASSIGNMENT

Using MATLAB Program;

Command window

clear

clc

close all

format short g

x(i) = 0.5;

I = 1;

tol = 1e-21;

Max1 = 50;

err(i) = 0;

Syms x

g = (exp(-0.5\*x) \* (4-x)) - 2;

g\_prime = diff(g);

for i = 2: max1;

x(i) = (x(i-1)) - ((subs(g, x(i-1))) / subs(g\_prime, x(i-1)));

I = [I, i];

err(i) = abs(x(i) - x(i-1)) \* 100;

if err(i) <= tol, break, end;

end

table = [I' x' err']

disp table



Table:

1	0.5	0
2	0.83889	33.889
3	0.88496	41.6065
4	0.88571	0.07526
5	0.88571	1.9704E-05
6	0.88571	1.3545E-12
7	0.88571	0