

UKRAI CHEMISTE SHALOM

17/01/2028

CHEMICAL ENGINEERING

EN 382 [ASSIGNMENT 2]

Command window

clear

clc

close all

format short g

$X(c) = 0.5; C = 1; tol = 1E-21; max_1 = 50; err(c) = 0$

Syms x

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

$gPrime = diff(g);$

For $c = 2 : max_1;$

$X(c) = (X(c-1)) - (C * subs(g, X(c-1))) / subs(gPrime, X(c-1))$

$C = [C c]$

$err(c) = abs(X(c) - X(c-1)) * 100$

If $err(c) <= tol, break, end;$

end

$$table = [C' \quad X' \quad err']$$

table =

1	0.5	33.889
2	0.88889	4.6065
3	0.88496	0.07526
4	0.88571	1.97042 - 0.5
5	0.88571	1.35452 - 12
6	0.88571	0
7	0.88571	