

Naga Lakshmi Technology Labs
11/EN6041043

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Elect Elect Engineering
ENG 382 ASSIGNMENT II

SOLUTION.

Command window

clear

clc

Syms x

format short

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

fprime = diff(f);

x = 0.5;

for i = 1:10;

 iter(i+1) = i;

 X(i) = x;

 x = double(subs(x - (f/fprime)));

 X(i+1) = x;

 ea(i+1) = abs((X(i+1) - X(i)) / X(i+1)) * 100;

 if ea(i+1) <= 1E-21;

 break

 end

end

Dansy = table(iter, X, ea)

Dansy.prop. Variable Names = {'iteration number', 'values of x', 'errors'}

OUTPUT.

Dansy =

iter	values of x	errors
0	0.5	0
1	0.83887	40.397
2	0.88496	5.2054
3	0.88571	0.084972
4	0.88571	2.2247E-05
5	0.88571	1.5293E-12
6	0.88571	0