

OGDMUECBUNAM

FAVOUR CT101

17EN601/021

CHEMICAL ENGINEERING.

Command window

clear

clc

syms x

format short

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

$$F_{prime} = \text{diff}(F)$$

$$x = 0.5$$

for i = 1:10

iter(i) = i

$$x(i) = x$$

x = double (subs (x - (F/F_prime)))

$$Ea(i) = \text{abs} ((x(i+1) - x(i)) / x(i)) * 100$$

$$\text{if } Ea(i) = 1E-21$$

break

end

Tablo = table (iter, 'x', Ea)

[iter, 'x', 'errors']

OUTPUT

iter	x	Error
0	0.5	0
1	0.83889	40.897
2	0.88996	5.2054
3	0.88571	0.08497
4	0.88571	$2.224e^{-0.5}$
5	0.88571	$1.5293e^{-12}$
6	0.88571	0