

DOKIYO OMOSHAKIWA DANIEL

17/EHG051033

MECHATRONICS

300 LEVEL

AG 382

ASSIGNMENT 2

Command Window

Clear

clc

Syms X

format short g

f = exp(-0.5*X) * (1-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;

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

If eq(i+1) <= 1E-21;

break

end

end

ZaRogu = table('iter', 'x', 'eq')

ZaRogu.properties.VariableNames = {'iteration number';
'Values of x'; 'errors'}

OUTPUT

ZaRogu =

Iter	Values of x	Error
0	0.5	0
1	0.83889	40.397
2	0.88496	5.2054
3	0.88571	0.084972
4	0.88571	$2.2247e-0.5$
5	0.88571	$1.5293e-12$
6	0.88571	0