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17/ENG05/035
ENG 382 [ENGINEERING MATHEMATICS II]

MATLAB CODE
Command window

```
clear
clc
close all
format short g
x(1) = 0.5;
I = 1;
tol = 1e-2;
Max1 = 50;
err(1) = 0;
syms x
g = (exp(-0.5*x)*(4-x))-3;
gprime = diff(g);
for i = 2:Max1;
x(i) = (x(i-1)) - ((subs(g, x(i-1)))/subs(gprime, 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	88.889
3	0.88496	4.6065
4	0.88571	0.07526
5	0.88571	1.9704E-05
6	0.88571	1.8545E-12
7	0.88571	0