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17/ENG05/038
Mechatronics Engr.
ENG 382

Command Window

```
Clear
CLC
Syms x
Format Short g
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-22
        brear
    end
End
Wuwu = table(Iter', X', ea')
Wuwu.Properties.VariableNames = {'Iterationnumber', 'valuesofx', 'errors'}
```

Output :

Iteration number	Value of x	Error
0	0.5	0
1	0.88869	60.391
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