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ENGA 382 Assignment 2

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1. Command window
2. Clear
3. clc
4. Close all
5. format short g
6. X(1) = 0.5; k=1; tol = 1e-21; maxl = 50; err(1) = 0;
7. Syms x
8. g = (exp(-0.5*x))*(4-x) - 2;
9. gprime = diff(g);
10. for k=2; maxl;
11.     X(k) = (X(k-1) - (subs(g, x(k-1)))) / subs(gprime, x(k-1));
12.     K = [K k];
13.     err(k) = abs(X(k) - X(k-1)) * 100;
14.     if err(k) <= tol, break, end;
15. end
16. table = [k' x' err']
```

Table =

1.	0.5	0
2.	0.83889	33.889
3.	0.88498	4.6065
4.	0.88571	0.07526
5.	0.88571	1.9704e-05
6.	0.88571	1.3545e-12
7.	0.88571	0