

YAKUBA NATHAN BALA

17/ENG041076

ELECT/ELECT

ENG382

ASSIGNMENT

- Command window

- Clear

- CLC

- Format short g

- $x(1) = 0.5;$

- $k = 1;$

- $tol = 1E-20;$

- $max1 = 50;$

- $err(k) = 0;$

- Syms x

- $g = (exp(-0.5 * x) * (4 - x)) - 2;$

- $g_prime = diff(g);$

- for $k = 2 : max1;$

$x(k) = (x(k-1)) - ((subs(g, x(k-1)) / subs(g_prime, x(k-1))))$

$k = [k \ k];$

$err(k) = abs(x(k) - x(k-1)) * 100;$

if $err(k) < tol$, break, and;

- end

Table = [k' x' err']

1	0.5	0
2	0.83889	33.889
3	0.88571	4.6065
4	0.88571	0.07526
5	0.88571	$1.704e^{-0.5}$
6	0.88571	$1.3545e^{-12}$
7	0.88571	0