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Command window

clear

clc

Syms x

format short g

f = (-0.5 * x)^k * (4 - x) - z

F_prime = diff(f);

z = 0.5;

for i = 1:10

iter(i) = i

x(i) = x_i

x = double(guess(x - (f / F_prime)));

x(i+1) = x

ea(i+1) = abs((x(i+1) - x(i)) / x(i+1)) * 100

if ea(i) < 1E-21

break

end

End

Sunny = Table('iter', 'x', 'ea')

Sunny properties variable names = {iteration numbers, 'values of x', 'error'}

output

Iteration no	Values of x	errors
0	0.5	0
1	0.83889	40.391
2	0.88496	5.2054
3	0.88571	0.684972
4	0.88571	$2.2247e^{-0.5}$
5	0.88571	$1.5293e^{-12}$
6	0.88571	0