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17/ENG03/046
Civil Engineering

endwindow

end

A short g

$$f(x) = (-0.5^x)^x (4-x) - 2;$$

$$f_p = \text{diff}(f);$$

$\alpha = 0.5$

i = 1:10;

iter(i+1) = i;

x(i) = x;

x = double(subs(x - (f/f_p)))

x(i+1) = x;

$$eq(i+1) = \text{abs}((x(i+1) - x(i))/x(i+1))^*100;$$

if eq(i+1) <= 1E-21;

break

end

end
Robert
= table('iter', x, eq)

Robert.properties.variable names = { 'iteration numbers', 'val', 'error' }

Output

Robert =

iter	Value of x	error
0	0.5	0
1	0.93889	40.397
2	0.88476	5.2054
3	0.88571	0.094972
4	0.88571	$2.2247 e^{-0.5}$
5	0.88571	$1.5293 e^{-12}$
6	0.88571	0