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MAT. NUMBER: 16 /eng03/041

COURSE CODE: ENG 382

DEPARTMENT: CIVIL ENGINEERING

MATHLAB SOLUTION TO ENGINEERING MATHS (IV) ASSIGNMENT 2

(ON THE EDITOR page):

commandwindow

clear

clc

format short g

syms x

deb=(exp(-0.5\*x)\*((4-x)))-2

dd=diff(deb)

x=0.5;

xdebr=x

for i=1:5

 iter(i+1)=i

 x= double(subs(x-(deb/dd)))

 xdeb(i+1)=x

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

 if ea(i+1)<=1E-9

 break

 end

end

tab=[iter' ea' xfavour']

Matlab solution

deb =

- exp(-x/2)\*(x - 4) - 2

dd=

(exp(-x/2)\*(x - 4))/2 - exp(-x/2)

xdeb =

 0.5

iter =

 0 1

x =

 0.83889

xdeb =

 0.5 0.83889

ea =

 0 40.397

iter =

 0 1 2

x =

 0.88496

xdeb =

 0.5 0.83889 0.88496

ea =

 0 40.397 5.2054

iter =

 0 1 2 3

x =

 0.88571

xdeb =

 0.5 0.83889 0.88496 0.88571

ea =

 0 40.397 5.2054 0.084972

iter =

 0 1 2 3 4

x =

 0.88571

xdeb=

 0.5 0.83889 0.88496 0.88571 0.88571

ea =

 0 40.397 5.2054 0.084972 2.2247e-05

iter =

 0 1 2 3 4 5

x =

 0.88571

xdeb =

 0.5 0.83889 0.88496 0.88571 0.88571 0.88571

ea =

 0 40.397 5.2054 0.084972 2.2247e-05 1.5293e-12

tab =

 0 0 0.5

 1 40.397 0.83889

 2 5.2054 0.88496

 3 0.084972 0.88571

 4 2.2247e-05 0.88571

 5 1.5293e-12 0.88571



