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DEPARTMENT: COMPUTER ENGINEERING

MATRIC NUMBER: 16/ENG02/045

ASSIGNMENT 2

commandwindow

clear

clc

format short g

syms x

grace=(exp(-0.5*x)*((4-x)))-2

olukoyi=diff(favour)

x=0.5;

xgrace=x

for i=1:5

 iter(i+1)=i

 x= double(subs(x-(grace/favour)))

 xfavour(i+1)=x

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

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

 break

 end

end

tab=[iter' ea' xgrace']

grace=

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

olukoyi=

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

xgrace =

0.5

iter =

0 1

x =

0.83889

xgrace =

0.5 0.83889

ea =

0 40.397

iter =

0 1 2

x =

0.88496

xgrace =

0.5 0.83889 0.88496

ea =

0 40.397 5.2054

iter =

0 1 2 3

x =

0.88571

xgrace =

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

xgrace =

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

xgrace =

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

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