DOUMU TARIERE JESSICA

CHEMICAL ENGINEERING

17/ENG01/029



Code on matlab:

commandwindow

clear

clc

format short g

syms v

v=0.5

for i=1:inf

 iter(i+1)=i

v(i+1)=sqrt((34.4+0.02\*v(i))\*(500+(log(v(i))^3))/0.3);

Ea(i+1)=abs((v(i+1)-v(i))/v(i+1))\*100;

if Ea(i+1)<=1E-11

break

end

end

iter'

v'

Ea'

table(iter',v',Ea')

Output:

v =

 0.5

Warning: Too many FOR loop iterations. Stopping after 9223372036854775806 iterations.

> In Untitled22 (line 7)

iter =

 0 1

iter =

 0 1 2

iter =

 0 1 2 3

iter =

 0 1 2 3 4

iter =

 0 1 2 3 4 5

iter =

 0 1 2 3 4 5 6

iter =

 0 1 2 3 4 5 6 7

iter =

 0 1 2 3 4 5 6 7 8

iter =

 0 1 2 3 4 5 6 7 8 9

iter =

 0 1 2 3 4 5 6 7 8 9 10

iter =

 0 1 2 3 4 5 6 7 8 9 10 11

iter =

 0 1 2 3 4 5 6 7 8 9 10 11 12

iter =

 0 1 2 3 4 5 6 7 8 9 10 11 12 13

iter =

 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

iter =

 Columns 1 through 15

 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

 Column 16

 15

iter =

 Columns 1 through 15

 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

 Columns 16 through 17

 15 16

iter =

 Columns 1 through 15

 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

 Columns 16 through 18

 15 16 17

ans =

 0

 1

 2

 3

 4

 5

 6

 7

 8

 9

 10

 11

 12

 13

 14

 15

 16

 17

ans =

 0.5

 239.4

 294.6

 303.05

 304.29

 304.48

 304.5

 304.51

 304.51

 304.51

 304.51

 304.51

 304.51

 304.51

 304.51

 304.51

 304.51

 304.51

ans =

 0

 99.791

 18.737

 2.7883

 0.40956

 0.060061

 0.0088058

 0.001291

 0.00018927

 2.7749e-05

 4.0682e-06

 5.9644e-07

 8.7442e-08

 1.282e-08

 1.8795e-09

 2.7555e-10

 4.0396e-11

 5.9362e-12

ans =

 18×3 table

 Var1 Var2 Var3

 \_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

 0 0.5 0

 1 239.4 99.791

 2 294.6 18.737

 3 303.05 2.7883

 4 304.29 0.40956

 5 304.48 0.060061

 6 304.5 0.0088058

 7 304.51 0.001291

 8 304.51 0.00018927

 9 304.51 2.7749e-05

 10 304.51 4.0682e-06

 11 304.51 5.9644e-07

 12 304.51 8.7442e-08

 13 304.51 1.282e-08

 14 304.51 1.8795e-09

 15 304.51 2.7555e-10

 16 304.51 4.0396e-11

 17 304.51 5.9362e-12