**FIDE-AKWUOBI ANTHONY CHIZALU**

**17/ENG06/037**

**MECHANICAL ENGINEERING**

**300 LEVEL**

**ASSIGNMENT I**

commandwindow

clear

clc

format long

max2= input('YOUR NUMBER OF ITERATIONS YOU WANT PLEASE')

v=0.5;

m=3.5;

g=9.8;

F=m\*g

v= sqrt(((F+(0.02\*v)\*(log(v)^3))+(10\*v)+17150)/0.3);

for i= 1:max2

iter(i+1)=i;

v(i+1)=sqrt((((F+(0.02\*v(i)))\*(log(v(i)))^3)+(10\*v(i))+17150)/0.3);

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

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

break

end

end

tablo= table(iter', v',Ea')

**SOLUTION**

YOUR NUMBER OF ITERATIONS YOU WANT PLEASE20

max2 =

20

F =

34.300000000000004

tablo =

17×3 table

Var1 Var2 Var3

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

0 239.369287014531 0

1 294.217361888264 18.6420252434194

2 302.615172038768 2.77507901997345

3 303.854338068507 0.407815809909203

4 304.036257400149 0.0598347490518471

5 304.062944797653 0.00877693186936419

6 304.066859388969 0.00128741136831034

7 304.067433584376 0.000188838179971408

8 304.067517807624 2.76988639616446e-05

9 304.067530161525 4.06288063028244e-06

10 304.0675319736 5.95944981592652e-07

11 304.067532239396 8.741344478304e-08

12 304.067532278383 1.28218497105212e-08

13 304.067532284102 1.88070670508509e-09

14 304.06753228494 2.75853683688946e-10

15 304.067532285064 4.04732464886369e-11

16 304.067532285082 5.92610583690399e-12