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16/ENG06/006

MECHANICAL

ENG 382 ASSIGNMENTS

ASSIGNMENT 1

```
commandwindow
clear
clc
close all
format short g
syms v
v=0.5
for i=1:inf
    iter(i+1)=1;
    v(i+1)=sqrt(10/3*(34.3+0.02*v(i))*(500+(log(v(i)))^3));
    Ea(i+1)=abs((v(i+1)-v(i))/v(i+1))*100;
    if Ea(i+1)<=1E-11
        break
    end
end
end
table(iter','v',Ea')
```

ans =

18×3 table

Var1	Var2	Var3
0	0.5	0
1	239.05	99.791
1	294.17	18.736
1	302.61	2.7894
1	303.85	0.40992
1	304.04	0.060144
1	304.06	0.0088222
1	304.07	0.0012941
1	304.07	0.00018981
1	304.07	2.7842e-05
1	304.07	4.0838e-06
1	304.07	5.9902e-07
1	304.07	8.7865e-08
1	304.07	1.2888e-08
1	304.07	1.8904e-09
1	304.07	2.7729e-10

1	304.07	4.0679e-11
1	304.07	5.9635e-12