

FLUWA TOCHUKWU SWINE
171EN0071010

PETROLEUM ENGINEERING
ENG 382

ASSIGNMENT 1

Solution

Command window

clear

clc

format short g

m = 3.5

g = 9.8

v(i) = 0.5

err(i) = 0

tol = 0.0000000001

maxl = inf

relerr(i) = 0

for i = 1:maxl

iter(i) = i

$$v(i+1) = \frac{5g - \left(\left((500 + (\log(v(i)))^3 \right)^m \cdot g + 0.02 \cdot v(i) \right)^{0.3} \right)}{0.3}$$

err(i+1) = abs(v(i+1) - v(i))

relerr(i+1) = (err(i+1)/v(i+1)) * 100

If err(i+1) <= tol, break, end

end

disp('iter v error relerr')

y = [iter' v' err' relerr']