```
end
disp('iter v error rita')
y = [iter' v' err' rita]
```

Name: Udemgba Rita Chidum.
Matric No: 17/ENG04/067
Electrical Electronics Engineering.
ENG 382 Assignment I

1) A flat plate of mass m falling freely in air with velocity V is subject to a downward gravitational force and an upward frictional drag force due to air. If the drag force, F_D, is given by Equation (1)

$$F_r = \frac{0.3V^2}{500 + (\ln V)^3} - 0.02V$$

and the terminal velocity is reached when the drag force equals the gravitational force, that is, $F_r = mg$. taking the values of m and g to be 3.5kg and $9.8 m/s^2$ respectively, using a guess value of $V_0 = 0.5 m/s$ and employing fixed point iteration method, develop a matlab program.

Solution

- Command window
- Clear
- Clc.
- Format short g
- m = 3.5
- g = 9.81
- V(1) = 0.5
- err(1) = 0
- tol = 0.0000000000001
- max1 = inf
- n+a(1) = 0
- for i = 1:max1
  iter(i+1) = i
  V(i+1) = sqrt(((((500 + (log(v(i)))^)* m *g + 0.02*v(i)
  0.3))