Computes the free-fall velocity of an object with second-order drag

Assumptions:

t(0) = 0

v(0) = 0

inputs:

h = step size (s)

tf = final time (s)

g = acceleration due to gravity (m/s^2)

m = mass (kg)

cd = second-order drag coefficient (kg/m)

outputs:

t = discrete time

v = downward velocity (m/s) at time t

```matlab
function [t,v] = freefall(h, tf, g, m, cd)

    if m == 0, error('m: zero value encountered'), end

    a = @(v) g - (cd/m)*v^2;     % aceleración

    t = 0:h:tf;
    v = zeros(size(t));
    for i=1:1:length(v)-1
        v(i+1) = v(i) + a(v(i))*h;
    end

end
```