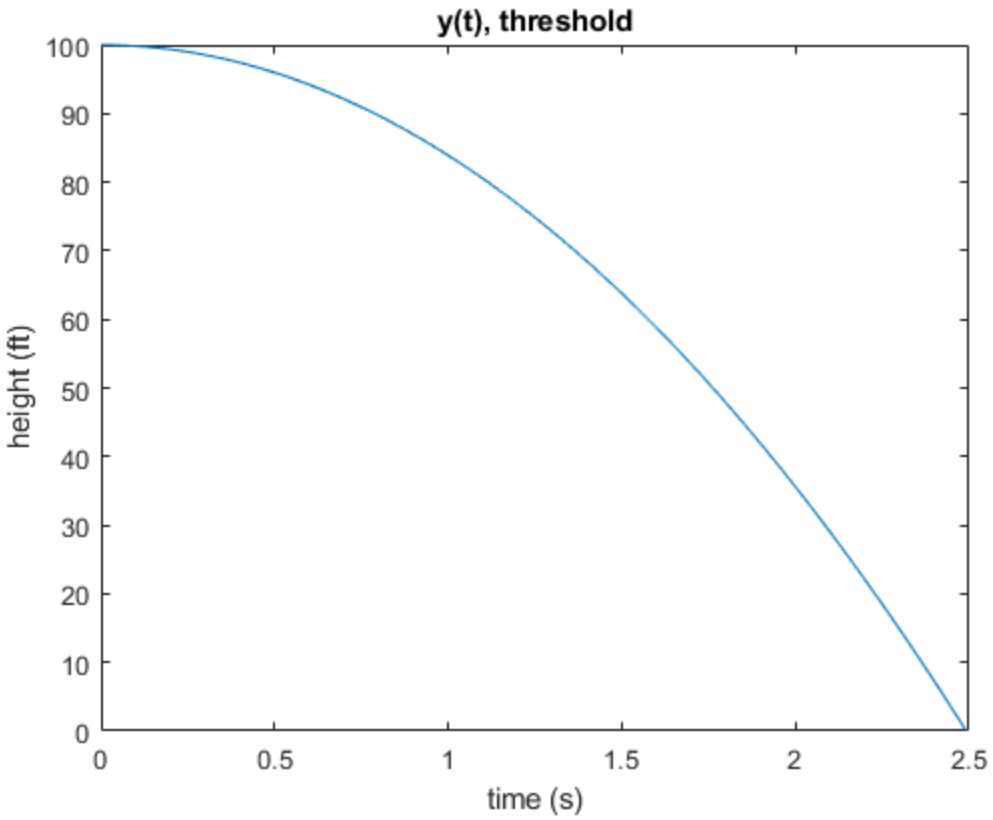
```
% Demo_02: Use the analytical solution combined with a threshold

% clear;

t_init = 0; % s
y_init = 100; % ft
y_final = 0; % ft
v_y_init = 0; % ft/s
a_y_init = -32.2; % ft/s^2
% n = 11;
t_delta = .01;

t_vector = [];
y_time = [];
y_current = y_init;
t_current = t_init;
iteration = 0;

while (y_current > 0)
    iteration = iteration + 1;
    t_vector( iteration ) = t_current;
    y_time( iteration ) = y_current;

    t_current = t_current + t_delta;
    y_current = y_init + (v_y_init * t_current ) +
 (.5*a_y_init*(t_current^2));
end

plot( t_vector, y_time );
title('y(t), threshold');
xlabel('time (s)');
ylabel('height (ft)');
```



Published with MATLAB® R2018a