ENGR15100: SOFTWARE TOOLS FOR ENGINEERS

Laboratory 10

PURPOSE: To simulate an egg drop trajectory using Simulink
For each problem, create a Simulink model and name it FIRSTNAME_LASTNAME_LAB10_ stepX.slx

SUBMITTING YOUR LAB:
Submit your lab by uploading .slx file using the Brightspace Assignment feature no later than the date specified.

PROBLEM:

STEP 1: (80 POINTS)

1) Create the Simulink diagram for $alt = 3000 - \frac{1}{2}(9.81)t^2$.
2) Set the simulation time from 0 to 30 seconds with the step size 0.1.

STEP 2: (20 POINTS)

Modify the above diagram to automatically stop when the altitude reaches less than or equal to zero in the constant block and run the simulation to determine the impact time. This value of time should be shown in a second display labeled time.

HINT: You will need to add a constant block for the preset value, a relational operator block for the inequality test, a stop simulation block, and a second display labeled time to accomplish this step.