

Second-Order Step Response GUI Assignment

These exercises may be used with the Second-Order Step Response GUI.

1. With the default values of mass, damping, and stiffness, what is the force input to the system to achieve the unit step?
2. Change the stiffness. Now what is the force input? If you do not understand how to calculate the force input, refer to the second-order step response tutorial.
3. What is the initial condition of the system?
4. How can you tell this is a step response?
5. Compare the response of this GUI with the response of Impulse or Displacement GUIs. Be sure to set the parameters the same for each GUI, and compare how the responses are similar or different.
6. If you have not already done the Displacement Response GUI Assignment, refer to questions 2-8 and perform those exercises using the Step Response GUI.