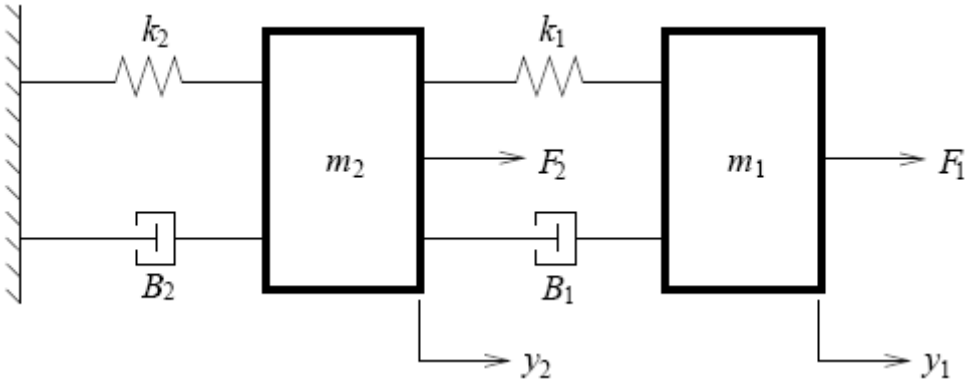
Consider the mass-spring-damper system of the figure below.



1. Write down the differential equation model. (There will be two equations, one for each mass. The system has two inputs F1 and F2, and two outputs are y1 and y2. Note that m1 has three forces acting on it, whereas m2 has five.)
2. Draw the simulink model of the mass-spring-damper system.
3. For each of the two inputs and for each of the 4 parameter values given below plot y1 and y2 for time 0 to 60secs.

Inputs:

a. F1 is step, F2 is zero
b. F2 is step, F1 is zero

Paremeters:

a. m1=m2=K1=K2=B1=B2=1
b. m1=m2=K1=K2=1, B1=B2=10
c. m1=m2=10, K1=K2=1, B1=B2=1
d. m1=m2=10, K1=K2=1, B1=B2=10