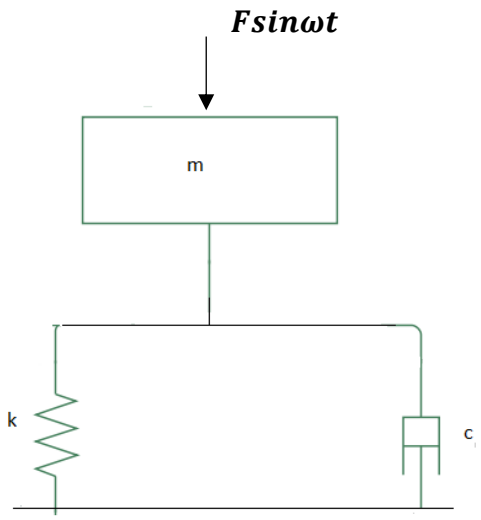
Forced SMD System

Create a Simulink model for this spring-mass-damper system with forced response using the given parameters and the initial conditions.

m = 1Kg; k = 100 N/m; c = 2 N-s/m; x(0) = 2 cm; $Fsin\omega t$ = 100sin(20t)



Equation-

$$m\frac{d^2x(t)}{dt^2} + c\frac{dx(t)}{dt} + kx(t) = Fsin\omega t$$

Instructions for modelling-

1.While giving names to blocks, rename gains as **Gain1, Gain2, …from top to bottom** and Integrators as **Integrator1, Integrator2… from left to right.**

2. Use **only** calculated value for the gain blocks rather than assigning it to a variable.