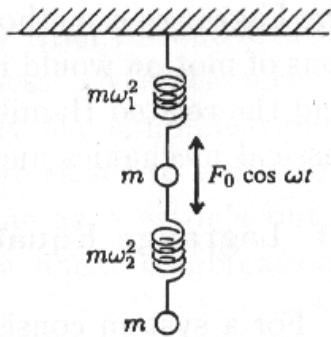


Reading: Chapters 6, 7.1-6

Problems:

1. Goldstein, Problems 6-8 and 6-9.
2. For the system in problem 6-12 in Goldstein, determine the particle positions as a function of time, if, at $t = 0$, (a) the displacements and the velocity of the second particle are zero while the first particle moves at a velocity v , (b) the velocities and the displacement of the second particle are zero while the first particle is displaced by $+d$. (c) Find the general solution of the equations of motion if the particles get subjected to friction forces proportional to velocities, with a proportionality coefficient ν .
3. A mass m is suspended from a support by a spring with spring constant $m\omega_1^2$. A second mass m is suspended from the first by a spring with spring constant $m\omega_2^2$. A vertical harmonic force $F_0 \cos \omega t$ is applied to the upper mass. Find the steady-state motion for each mass. Examine what happens when $\omega = \omega_2$.



4. Goldstein, Problem 7-2.
5. Goldstein, Problem 7-7.