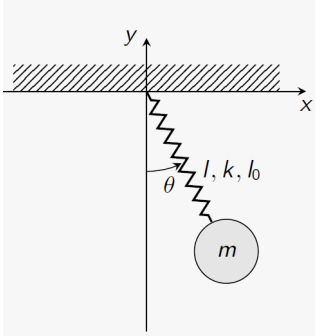
Problem 1

Read the reading assignment. See attached.

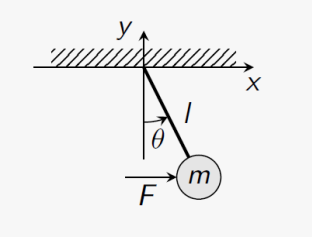
Problem 2

Use the Euler-Lagrangian method, to derive the dynamic model of the Elastic Pendulum, where the mass is connected to the wall via an elastic string, with elastic constant k.



Problem 3

consider the pendulum with horizontal force. Let the *generalized coordinate* $q = \theta$, what is the generalized force? When the horizontal force is a constant, is this the case with the generalized force?



Problem 4

No submission required: Read and practice matlab symbolic toolbox: https://www.mathworks.com/help/symbolic/getting-started-with-symbolic-math-toolbox.html