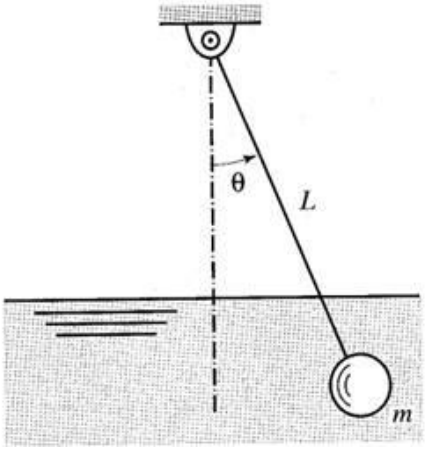
Pendulum Viscous Damping

Consider a clock pendulum immersed in a fluid. Create a Simulink model for the following linearized differential equation of pendulum with viscous damping.



Equation-

$$ml^2\ddot{\theta} + C_d l^2\dot{\theta} + mgl\theta = 0$$

Where, $m = 10g, l = 5cm, C_d = 14N.\frac{sec}{cm}, g = 981cm/sec^2$

$$\theta(0) = 1.57, \dot{\theta}(0) = 0$$

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.