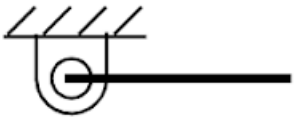
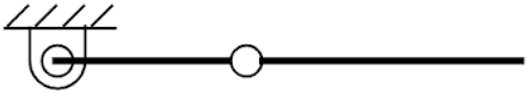
ME 370 : Adams : Exercise 1



Construct a simple pendulum (a link swinging from a revolute joint). Start swinging it from the horizontal position. What is the angle made by the link with the vertical at the end of 20 cycles?



Construct a pendulum with two links attached with a revolute joint. The second link should be longer than the first link. Start swinging both the links from the horizontal position. Plot the location of the tip of the pendulum through 5 cycles of the link which is attached to the ground.

Construct a four bar linkage satisfying the Grashof criterion.
Rotate the crank exactly once.
Plot the displacement of the middle point of the rocker vs time.
Plot the angle between the rocker and the ground link vs time.

Construct a slider-crank mechanism.
Rotate the crank exactly once.
Plot the displacement of the middle point of the connecting rod vs time.
Plot the angle between the connecting rod and the horizontal vs time.

Prepare a PDF file containing :
1. Screenshots of isometric views of the four mechanisms
2. The five plots with the filename <S1_rollnumber.pdf>
Upload the file in Moodle.