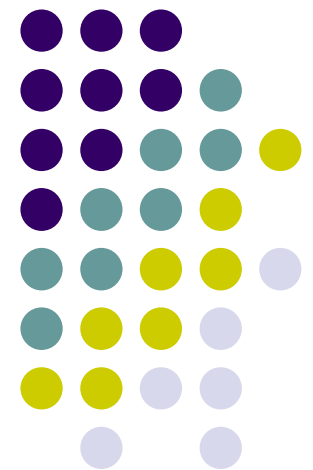
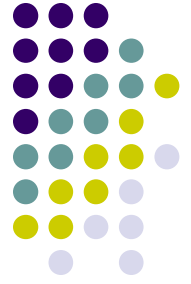


ADAMS Assignment 2

ME451: Kinematics and Dynamics of
Machine Systems



Turning in Your Assignment

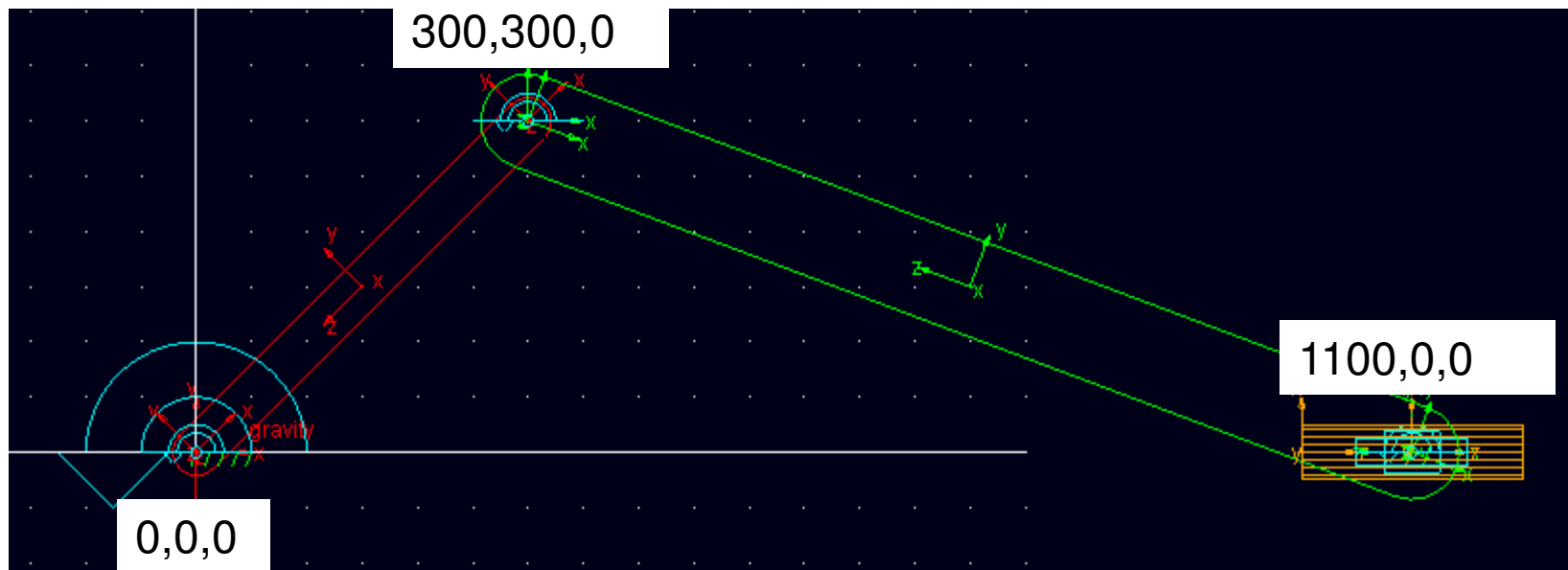


- Create a **single** PDF file, named “lastName_ADAMS_02.pdf” with the information listed on the last slide (including the supporting plots).
- Make sure your name is listed on that file.
- Drop the file in the appropriate Dropbox Folder (ADAMS_02) at Learn@UW



Model

- Construct a slider crank mechanism as shown
 - The model is planar (2-dimensions only)

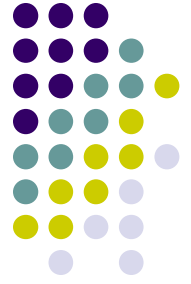




Masses and link lengths

- Use “Rigid Body: Cylinder” to build the slider
- Use “Rigid Body: Link” to build crank and connecting rod
- Use a revolute joints between “ground and crank”, “crank and connecting rod”, “connecting rod and slider” and use translational joint between “slider and ground”
- Mass of Crank: 1 Kg
- Mass of Connecting Rod: 2 Kg
- Mass of slider: 0.5 Kg, The slider is 100 mm long on either side of its center at (1100,0,0)
- The crank is driven at 1000 rpm
- Run a kinematics analysis for 2 revolutions using 1000 steps

ASSIGNMENT



Use ADAMS/Postprocessor to create plots to verify the values reported in 1-4 below

1. Report maximum acceleration for the center of mass of the connecting rod
2. Find the maximum value of the reaction force in the revolute joint between
 1. Ground and the crank
 2. Crank and the connecting rod
3. Find the maximum value of acceleration for the slider
4. Find the maximum velocity of the slider