Laboratory #2
Modeling of Mechanical Assembly and Motion Simulation

Jan 24 – Feb 7

Objectives:

Get familiar with NX Assembly
- Generation of Mechanical Assembly
- Carrying out Simply Animations Using Assembly Model

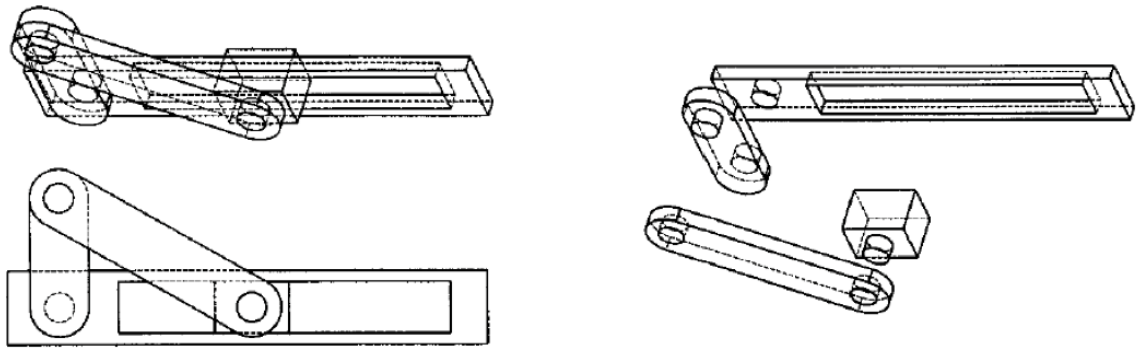
Instructions:

Part I – Preparation

1. Review of the lecture notes and web documents on Introduction to NX7.5.
   a. Assembly Model (Chapter 8)
   b. Run a Simple Mechanism
2. Practice NX7.5 assembly modeling functions and animation functions following the instructions provided in the above documents.

Part II – Model the Four-bar Linkage Mechanism

1. Practice NX7.5 assembly modeling.
2. Create the models of the four components for the four-bar linkage mechanism and assemble these components together, as shown below. Save this assembly model as *linkage.prt*.



The rough dimension range of the mechanism: 200 x 60 x 30 (mm)

Part III – Motion Simulation

Follow the steps below.

1. Bring up the assembly model created, run the Motion Simulation application in NX;
2. Select each component as a link, choose one as a fixed link;
3. Set joints for moving parts, and give a driving force.
4. Run your solution and then animation.

Part V – Reporting

1. Write a lab report that includes images of:
   (i) 3D part models;
   (ii) Assembly model; and
   (iii) Four different frames (screen dumps) of the mechanism animation, following the given report format:

Title of the Assignment
Names and Student Numbers

1) Objective
2) Description of the Assignment
3) Your Experience and Suggestions
4) Illustrations of the part, assembly and animation, using images from NX7.5
5) New Procedures developed (if there is any)

2. Submit the lab report by emailing the following documents to:
   mech410@me.uvic.ca
   - Lab report in *MS Word* named as: Group#_Lab1*(.doc)*
   - Package containing the NX modeling and simulation files with the same primary name Group#_Lab1*(.zip/.rar)*.