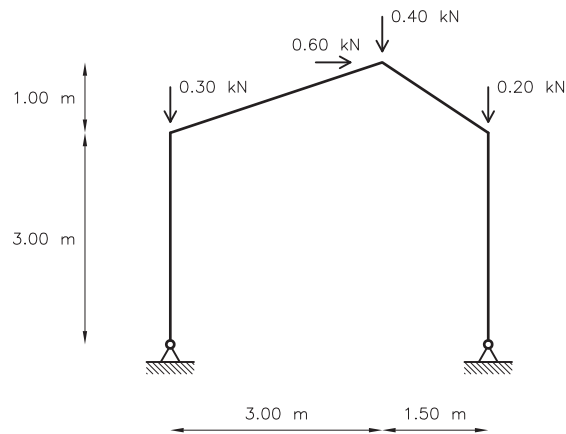

Assignment 01 – Introduction to the FEM

Modify the 2D Frame excel worksheet in order to be able to solve 2D frame structures with a maximum of 4 bar elements and 5 nodes.

Use the modified worksheet to solve two different cases.

1. The first case is the shelter shown in the following figure. All bars are tubular square with dimensions: 10cm high and 10cm width, and a thickness of 1mm. Bars are made of aluminum alloy type 5052-O. The properties of this material can be found in <http://www.makeitfrom.com>



2. The second case can be any structure (made of 4 bars and 5 nodes) defined by you.

You will have to present a report describing the cases studied (geometry, materials, boundary conditions, etc.) and the results obtained with the spreadsheet (reactions, node displacements, efforts, etc.)

This assignment is due on Thursday July 19, 2012. You can handle me a paper copy after class or you can submit it as a pdf at x.martinez@upc.edu