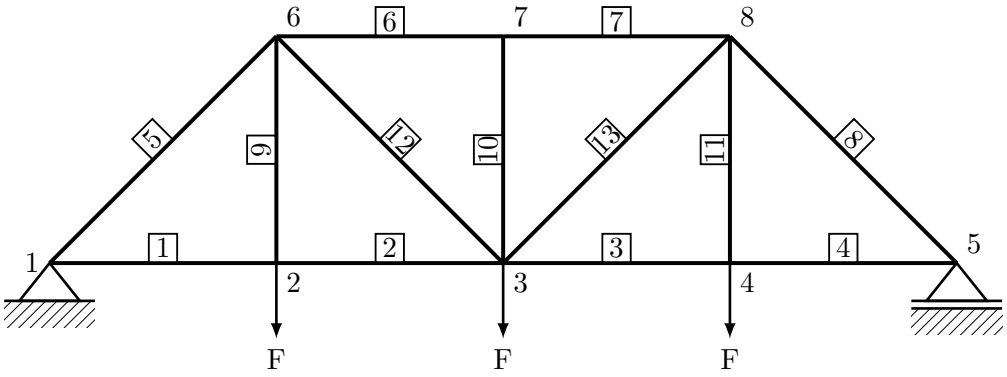
Practical 1, Group B: Bridge



node	x (m)	y (m)
1	0	0
2	5	0
3	10	0
4	15	0
5	20	0
6	5	5
7	10	5
8	15	5

element	A (mm^2)
1 - 9	500
10 - 13	200

E = 210000 N/mm^2
F = 5 kN

 = free in x-direction, constrained in y-direction.

The framework above represents the bridge in the picture. All trusses are connected with hinges. Use MATLAB and the finite element method to determine the displacements of the nodes of the construction. Instructions can be found in the practical training manual. Assess the correctness of the results by checking equilibrium of the framework and checking whether the elongation of the trusses agree with the truss forces. Fill in the answer sheet and let the student assistant assess your work. They may ask some questions to see whether you understand what you did.

Hand in the answer sheet to the student assistant at the end of the practicum.