Assignment I-2: Civil and Structural Engineering II

Assigned: 27 February 2024 (Tue) Due date: 5 March 2024 (Tue) 11:59 pm

NOTE 1. Submit your completed assignment online to Canvas. Submit your work in a PDF file. Late submission will not be accepted.

NOTE 2. Show your work clearly. When appropriate, illustrate your work with diagrams and/or figures and write down any assumptions you made.

NOTE 3. Use the sign conventions taught in lectures. Take $g = 9.81$ m/s^2 when necessary.

2.1 Use the method of joints to determine the axial forces in all members of the truss structure in Fig. 2.1, under the two applied loads as shown.

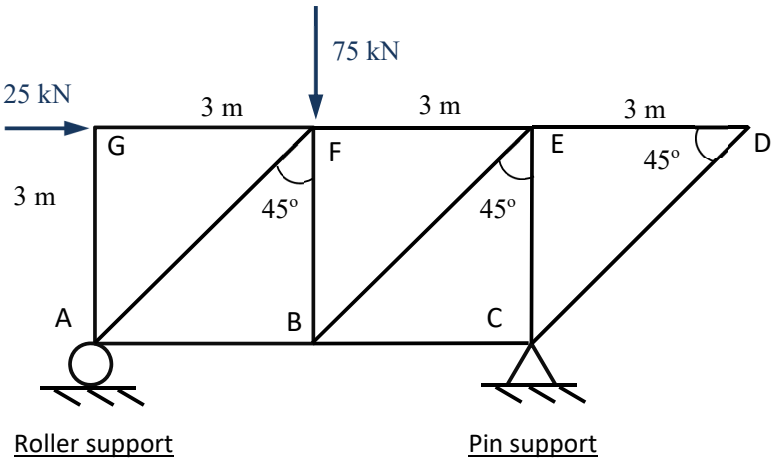

Fig. 2.1

At the end of calculation, summarize the forces in the members in a table like this one:

Member	Force (kN)	Member	Force (kN)
AB		*AG*	
BC		*AF*	
CD		*BF*	
DE		*BE*	
EF		*CE*	
FG			

2.2 Determine all support reactions for the three-hinged arch shown in Fig. 2.2.

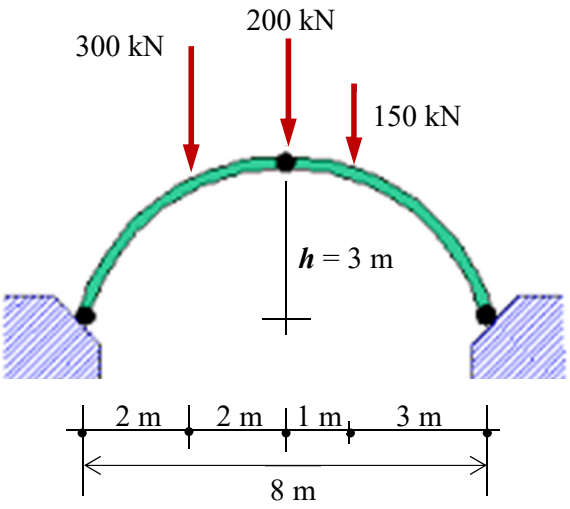

Fig. 2.2