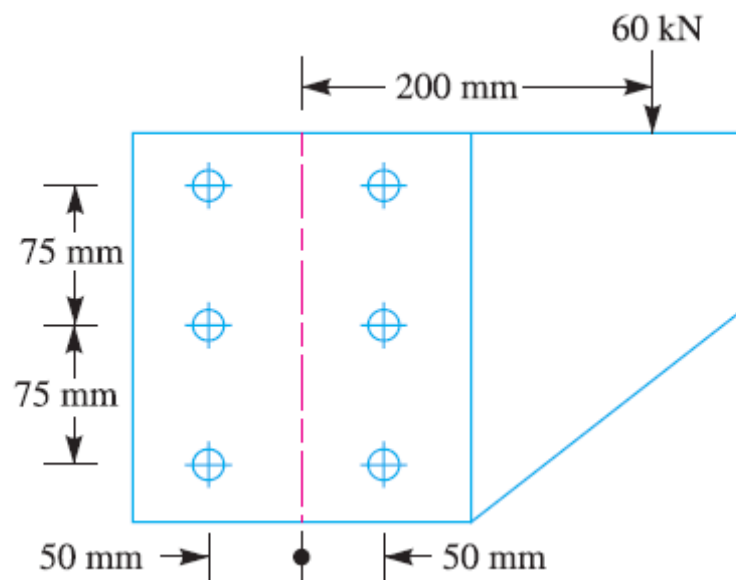


## Design

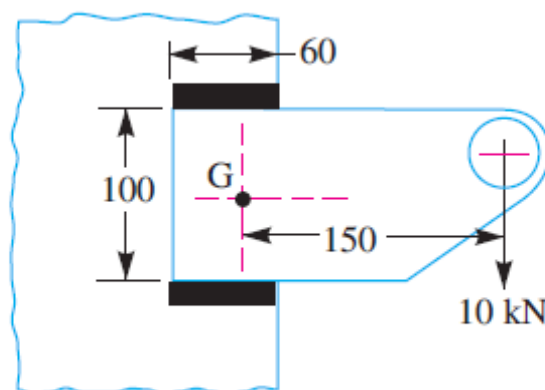
### Question one (10 marks)

- Draw stress-strain diagram with showing its full data.
- A bracket is riveted to a column by 6 rivets of equal size as shown in figure. It carries a load of 60 kN at a distance of 200 mm from the center of the column. If the maximum shear stress in the rivet is limited to 150 MPa, determine the diameter of the rivet.



### Question two (10 marks)

- Show, with neat sketches, the types of stresses (simple and compound).
- A bracket, shown in figure, is to carry a load of 10 kN. Find the size of the weld if the allowable shear stress is not to exceed 80 MPa.



All dimensions in mm.