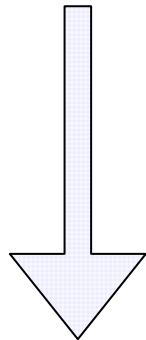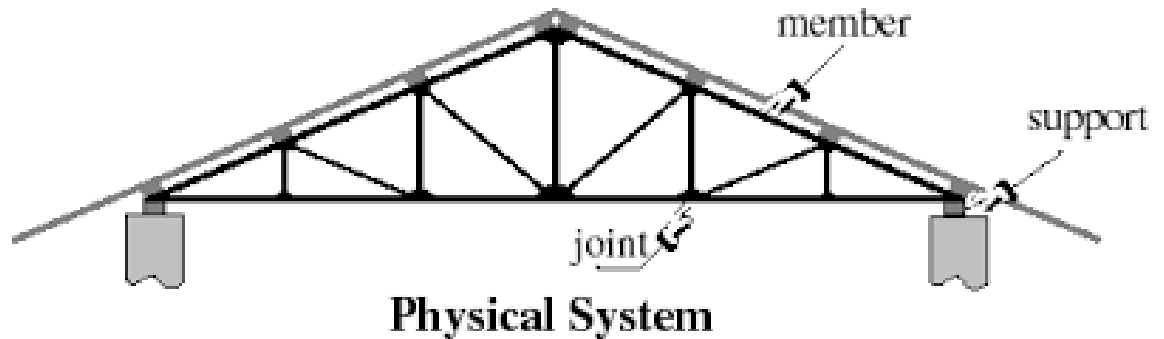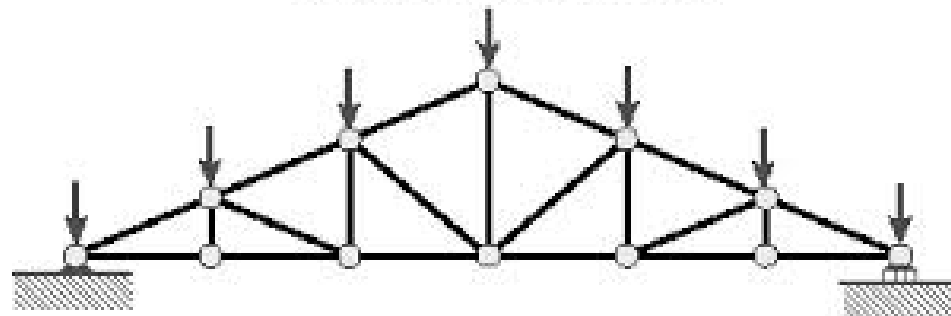# 'hinge-joint' or 'pin-joint' model

REALITY
(RIGID JOINTS)
COMBINED INTERNAL FORCES (N,V,M)

MODEL
(HINGE JOINTS)
AXIAL FORCES (N)

member

support

joint

Physical System

IDEALIZATION

Mathematical Model

the trusses
hinge joints model

PURE TENSION

N ⟵ ●━━━━━● ⟶ N

(+)

PURE COMPRESSION

N ⟶ ●━━━━━● ⟵ N

(-)
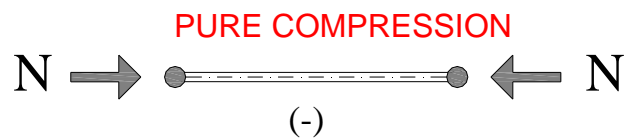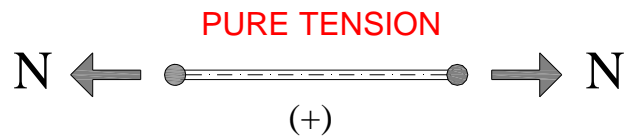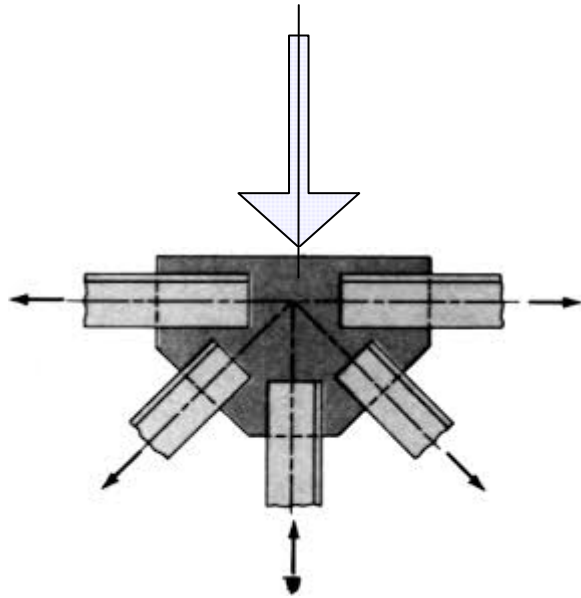
Statically determinate trusses

- static analysis
  stability and resistance evaluation
   (ultimate limit states)

- kinematic analysis
  deformation check
  (serviceability limit states)

'movable' supports
(vertical restriction → vertical reaction)

'hinged' or 'pinned' supports
(vertical and horizontal restriction and reaction)