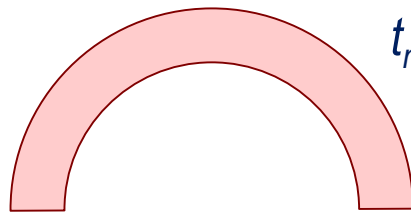


# Suggested problems for HW

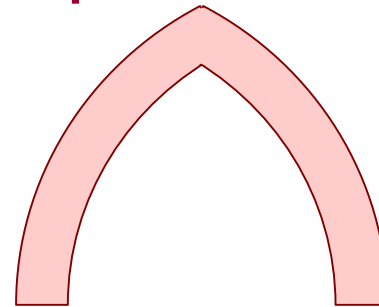
## (1) Comparison of DEM and nonlinear FEM:

simulate the same problem in DEM as your project in Nonlinear FEM

## (2) Minimally necessary thickness of the equilateral Gothic arch:

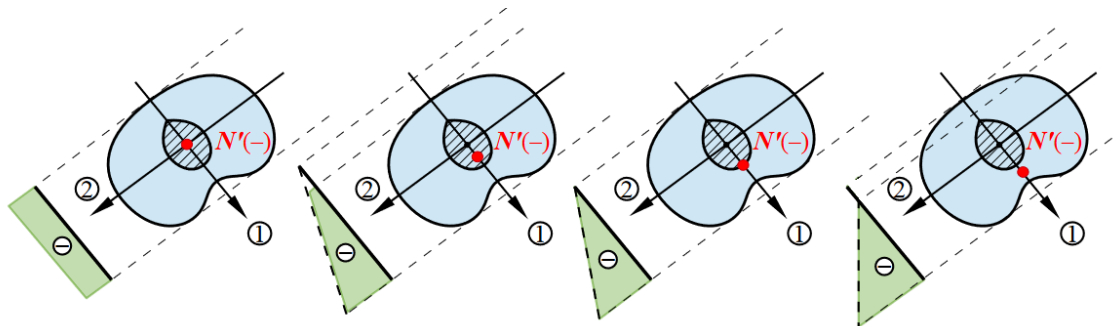


$$t_{min} = 0,1074 R$$



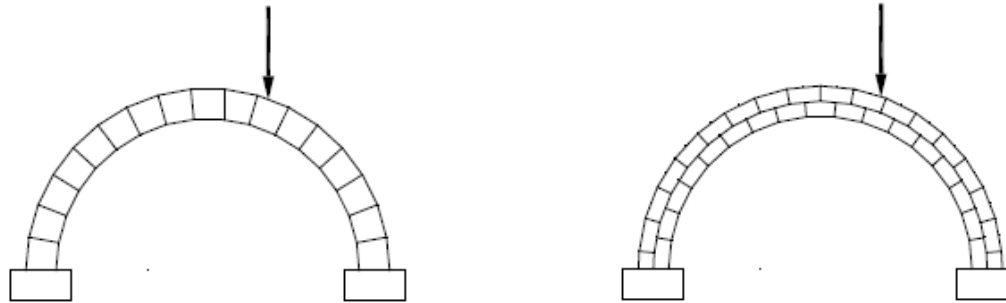
$$t_{min} = ???$$

## (3) Cullmann's Kern:



# Suggested problems for HW

## (4) Single-ring arch versus double-ring arch:



Compare: Critical position of the load? Failure load magnitude?

## (5) Size effect of the voussoirs:



To analyze: How the failure load depends on the size of blocks?

## (6) YOUR OWN IDEA