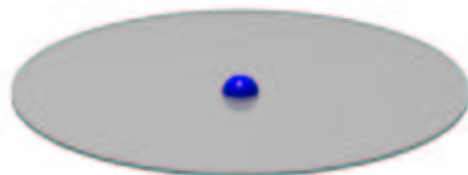
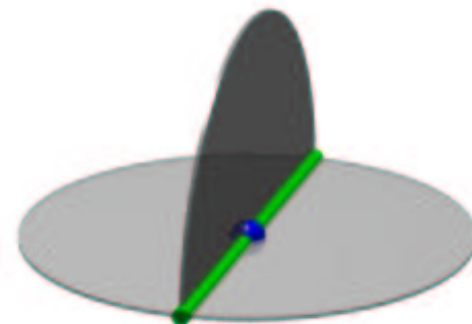


Guts of a simple polyhedron: neighborhoods

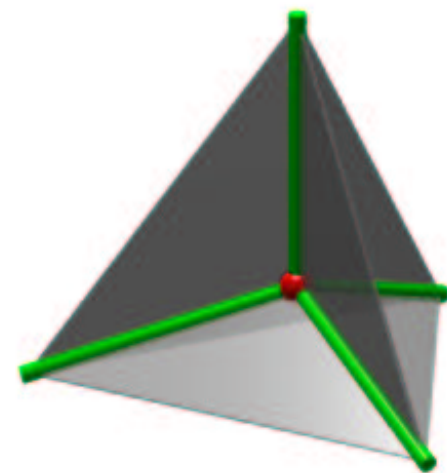
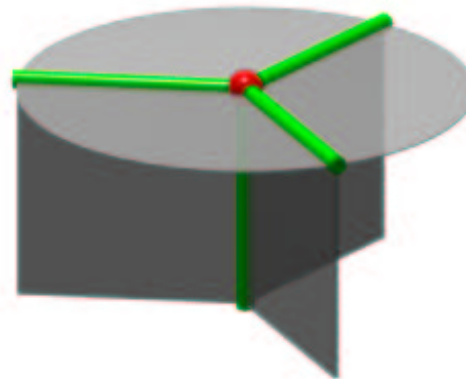
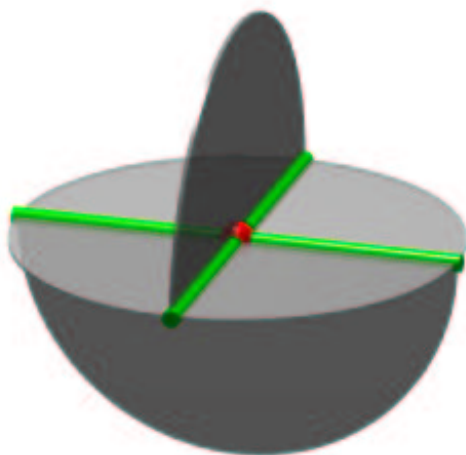
Non-singular
point:



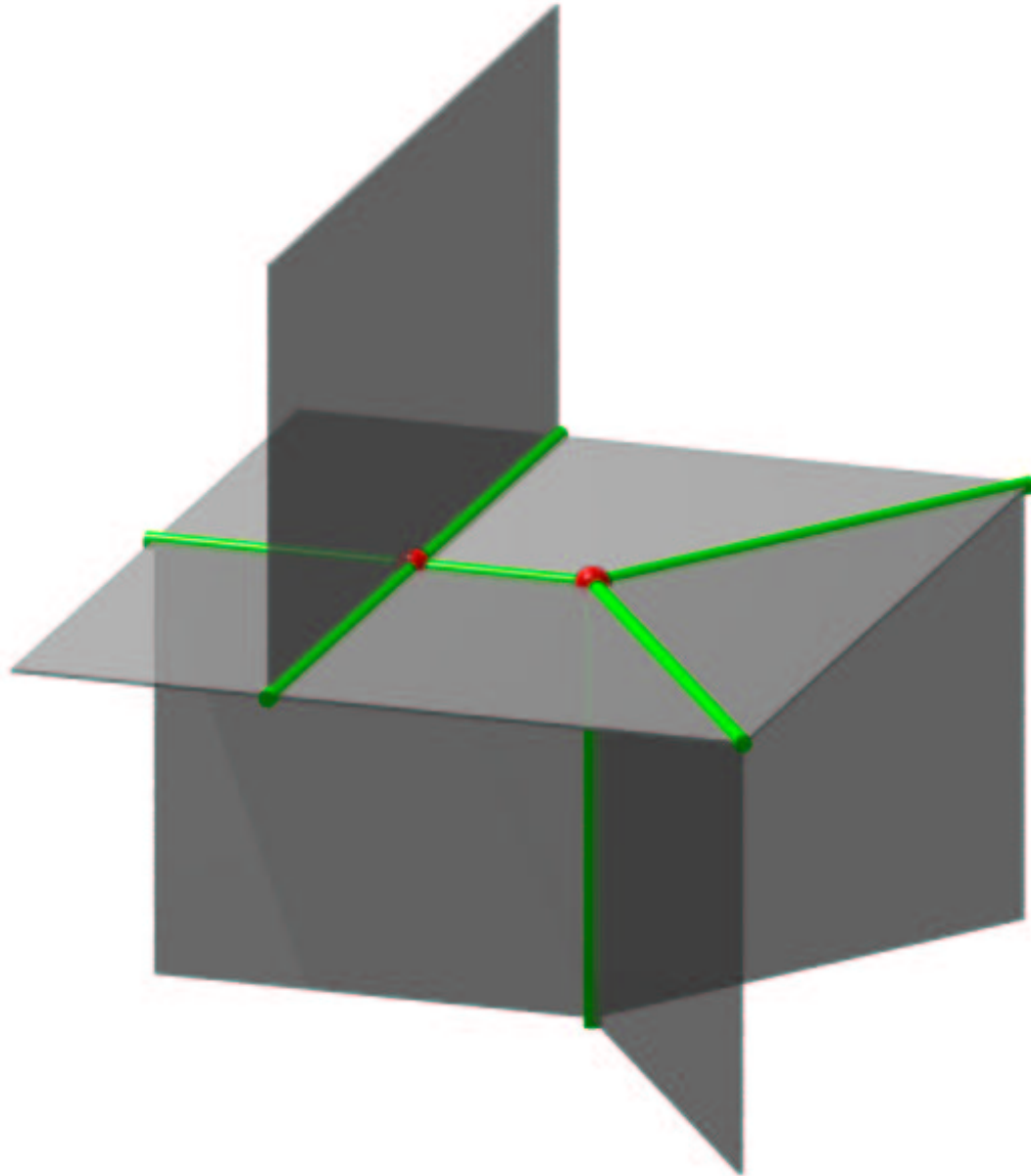
Triple
point:



Vertex:

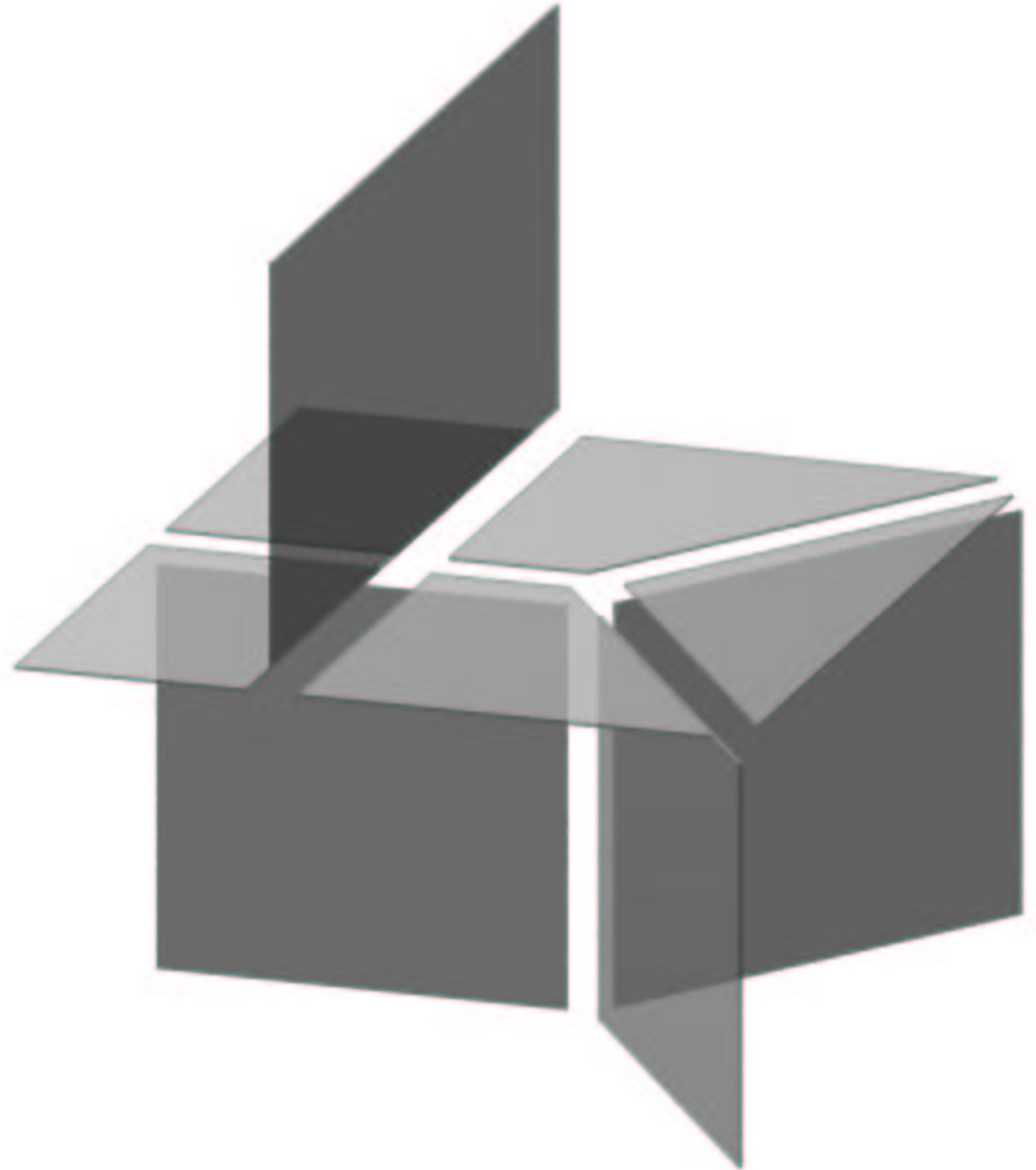


A piece of a simple polyhedron



Guts of a simple polyhedron: interior

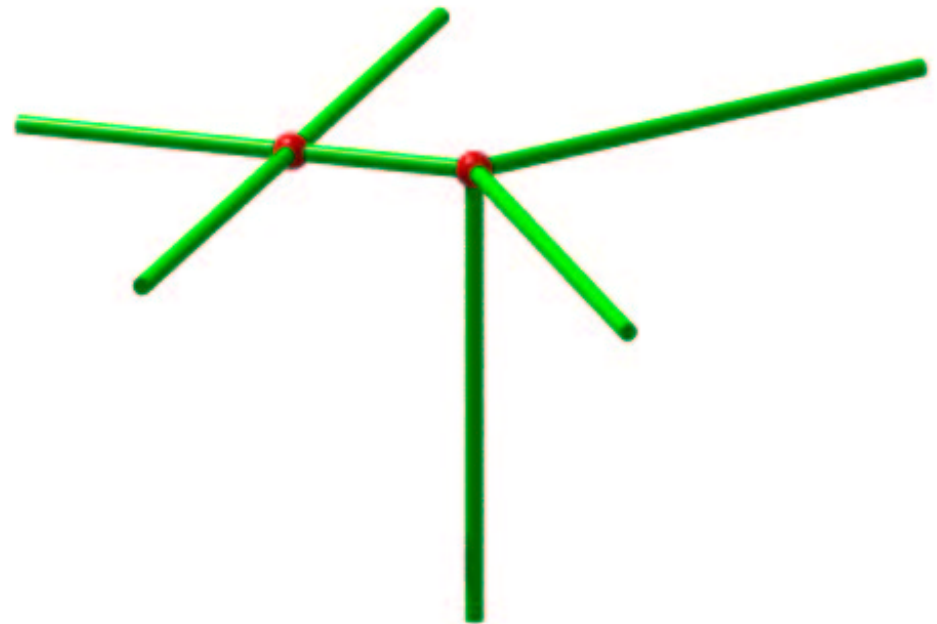
consists of
regions (or faces)



Guts of a simple polyhedron: singular graph

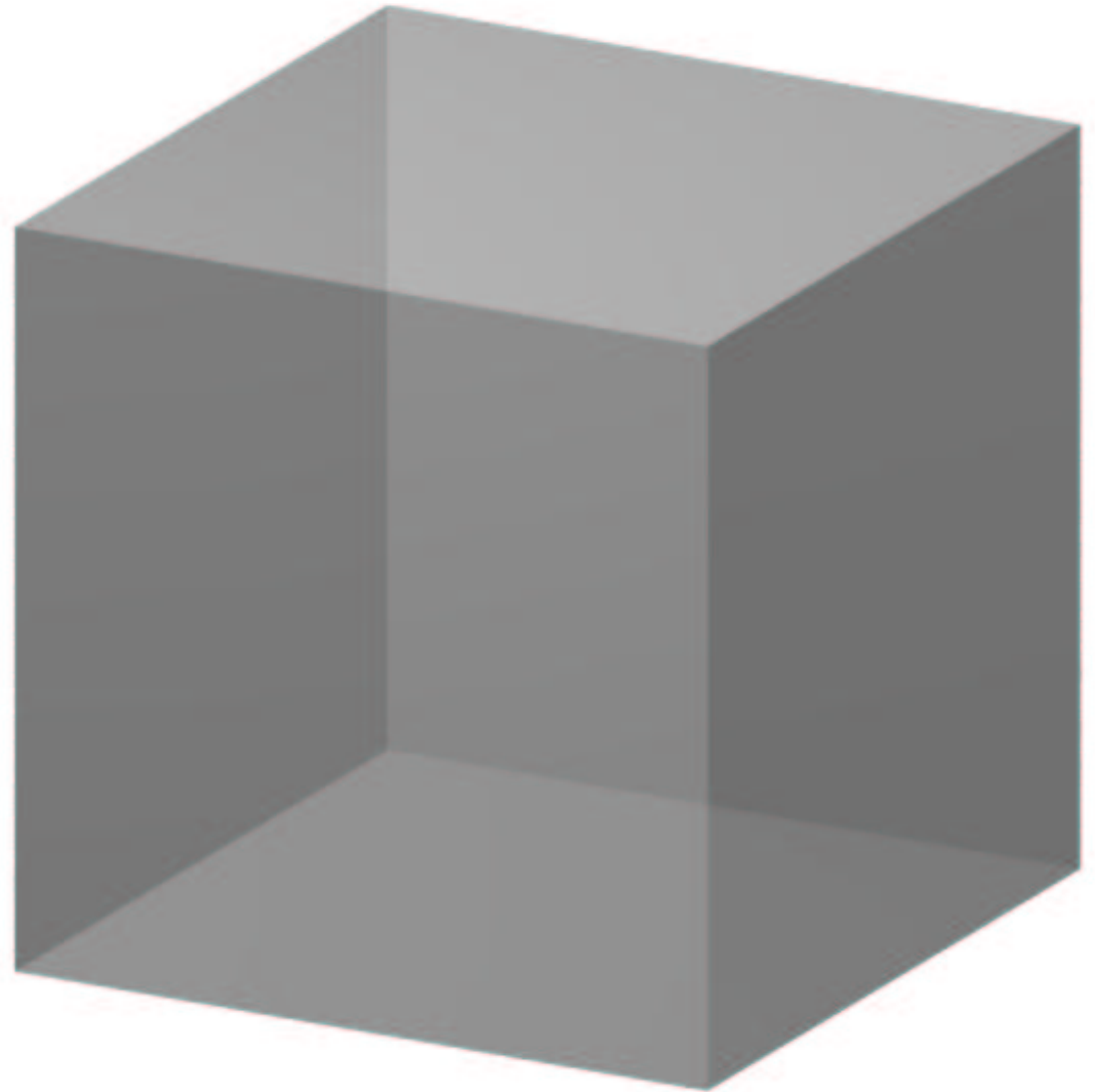
consists of

edges,
vertices



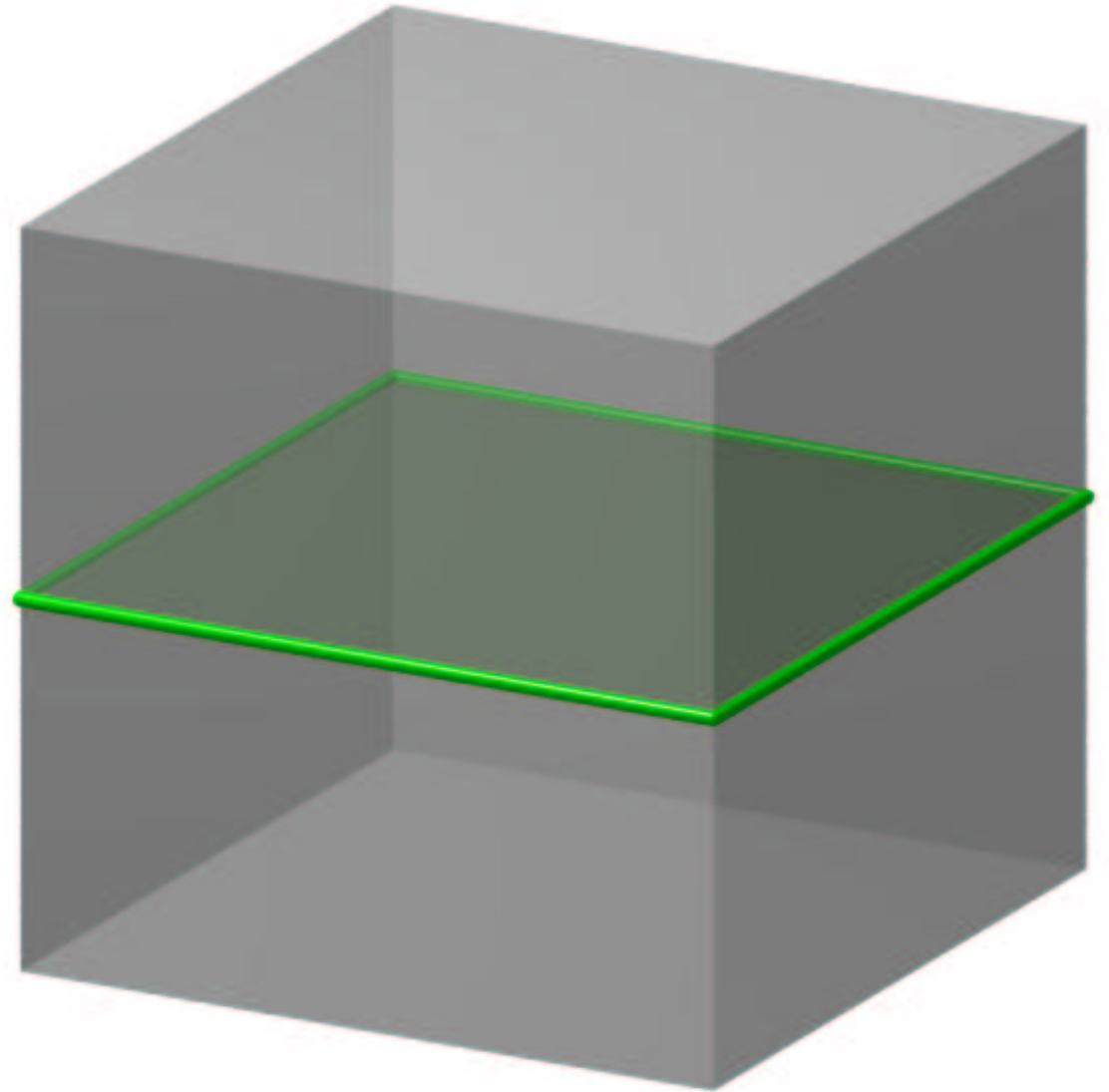
Construction of Bing's house

main cubic
building



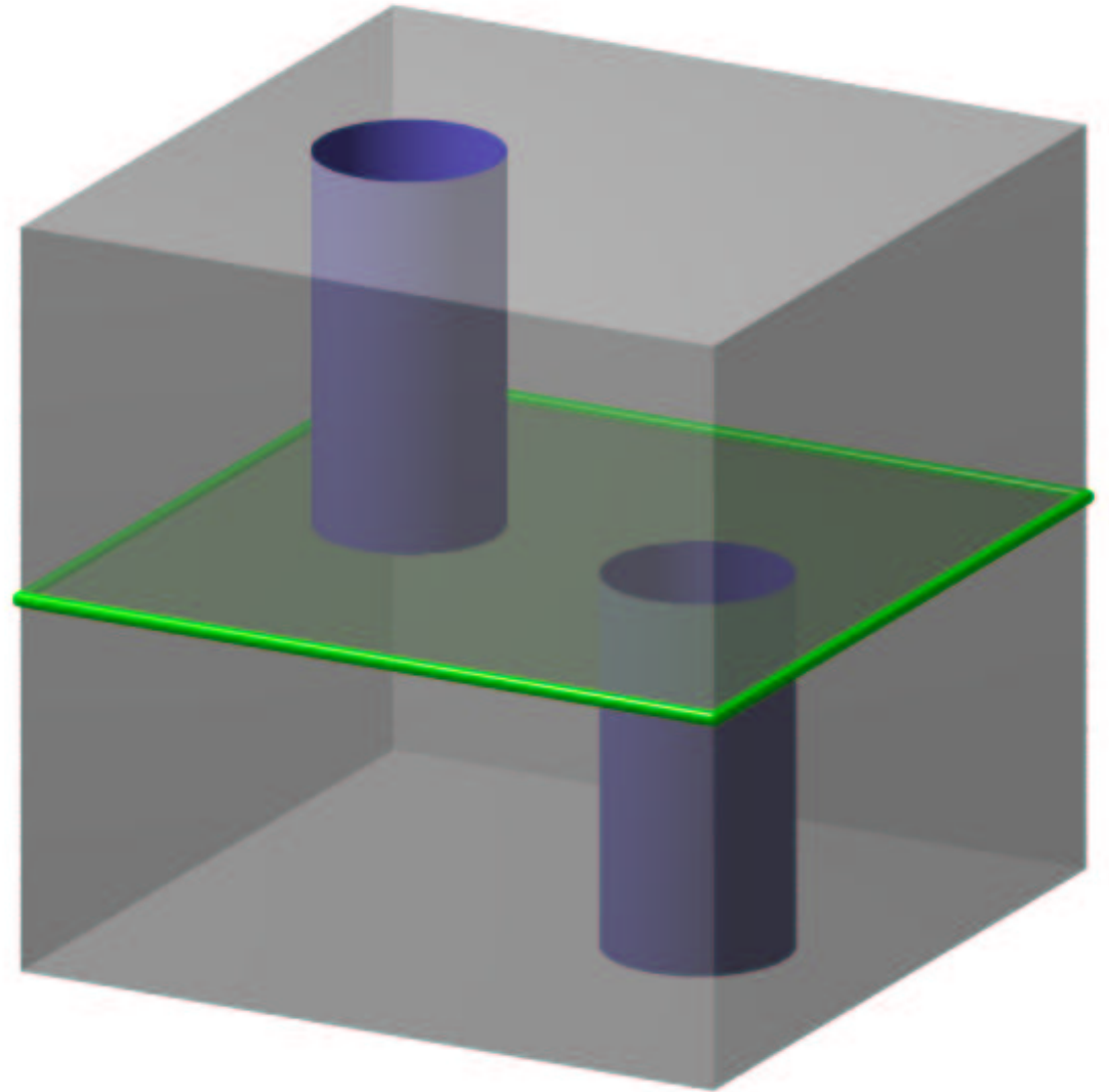
Construction of Bing's house

two rooms



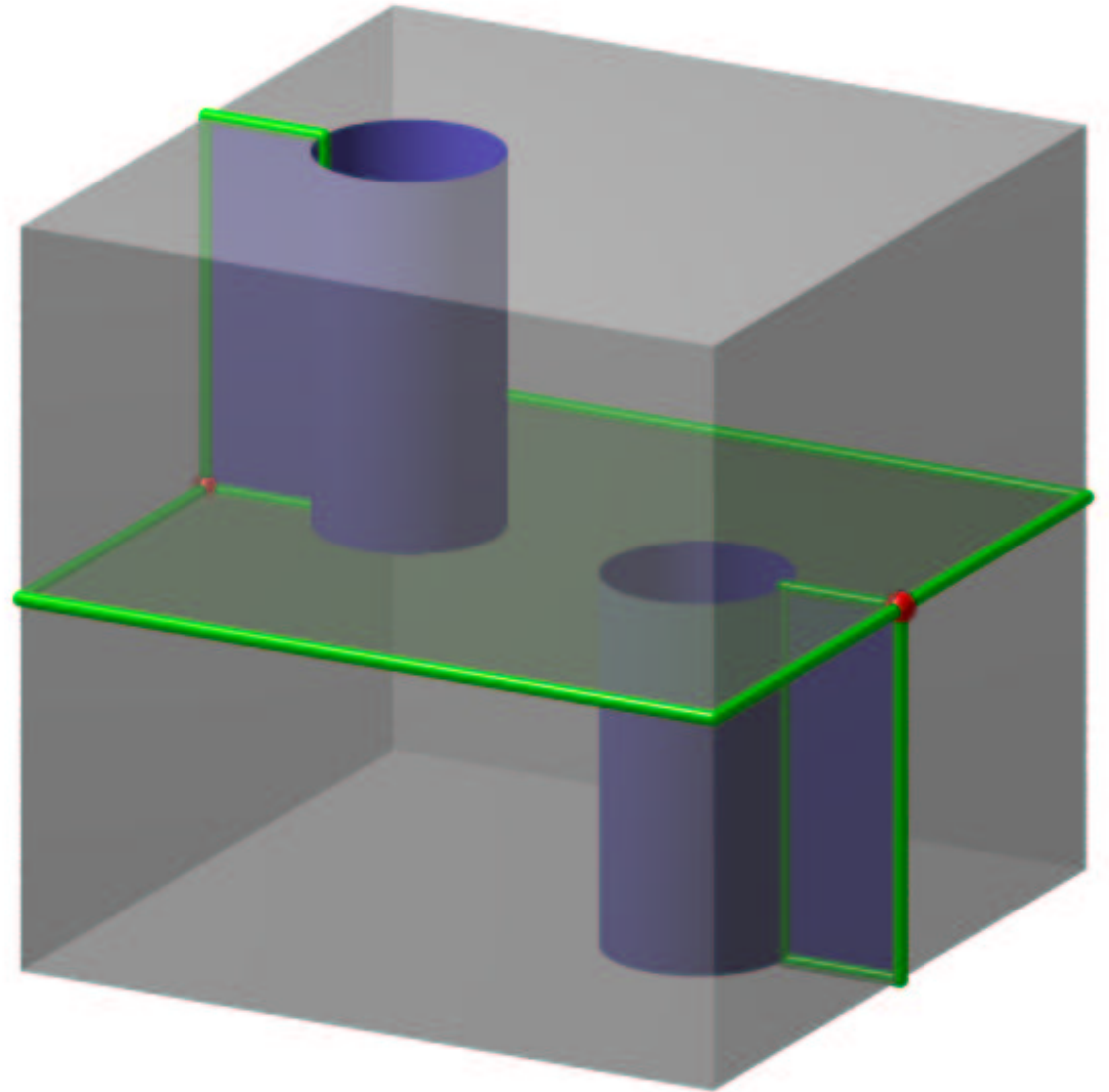
Construction of Bing's house

two tunnel
entrances



Construction of Bing's house

two extra walls
for some luxury



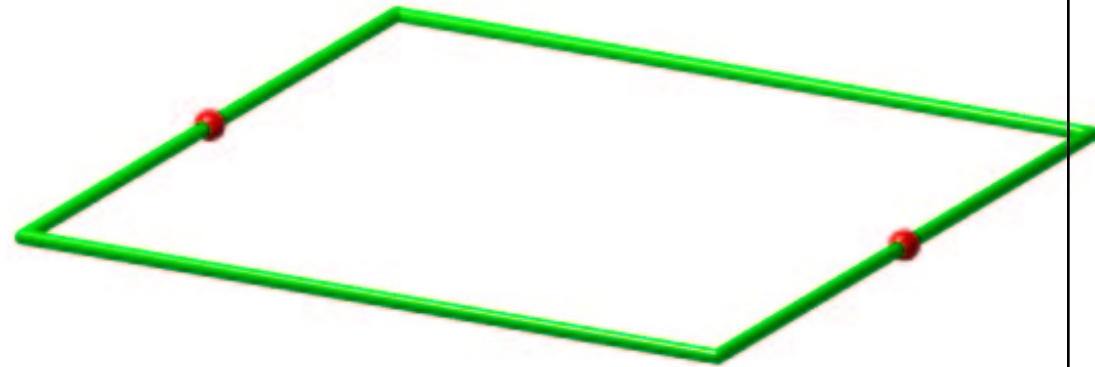
Strata of Bing's house

2 vertices



Strata of Bing's house

2 vertices
2 edges

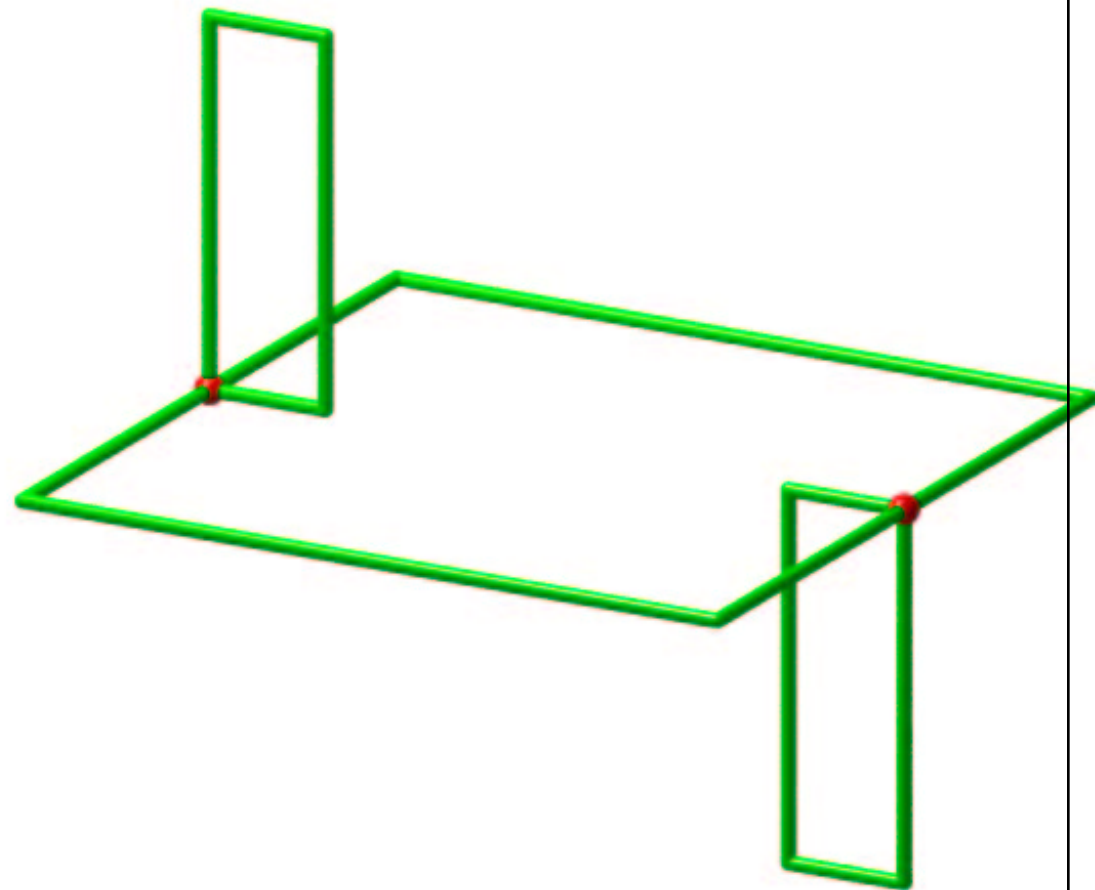


Strata of Bing's house

2 vertices

2 edges

2 edges



Strata of Bing's house

2 vertices

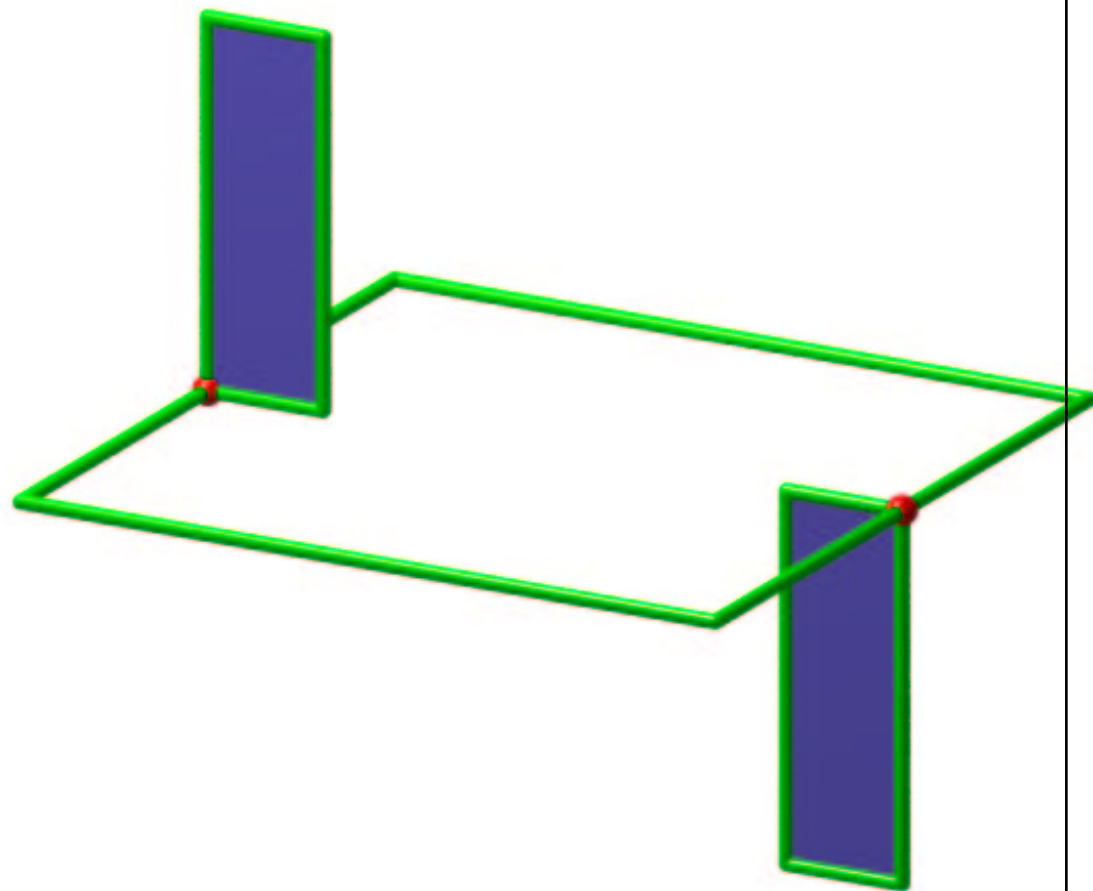
2 edges

2 edges

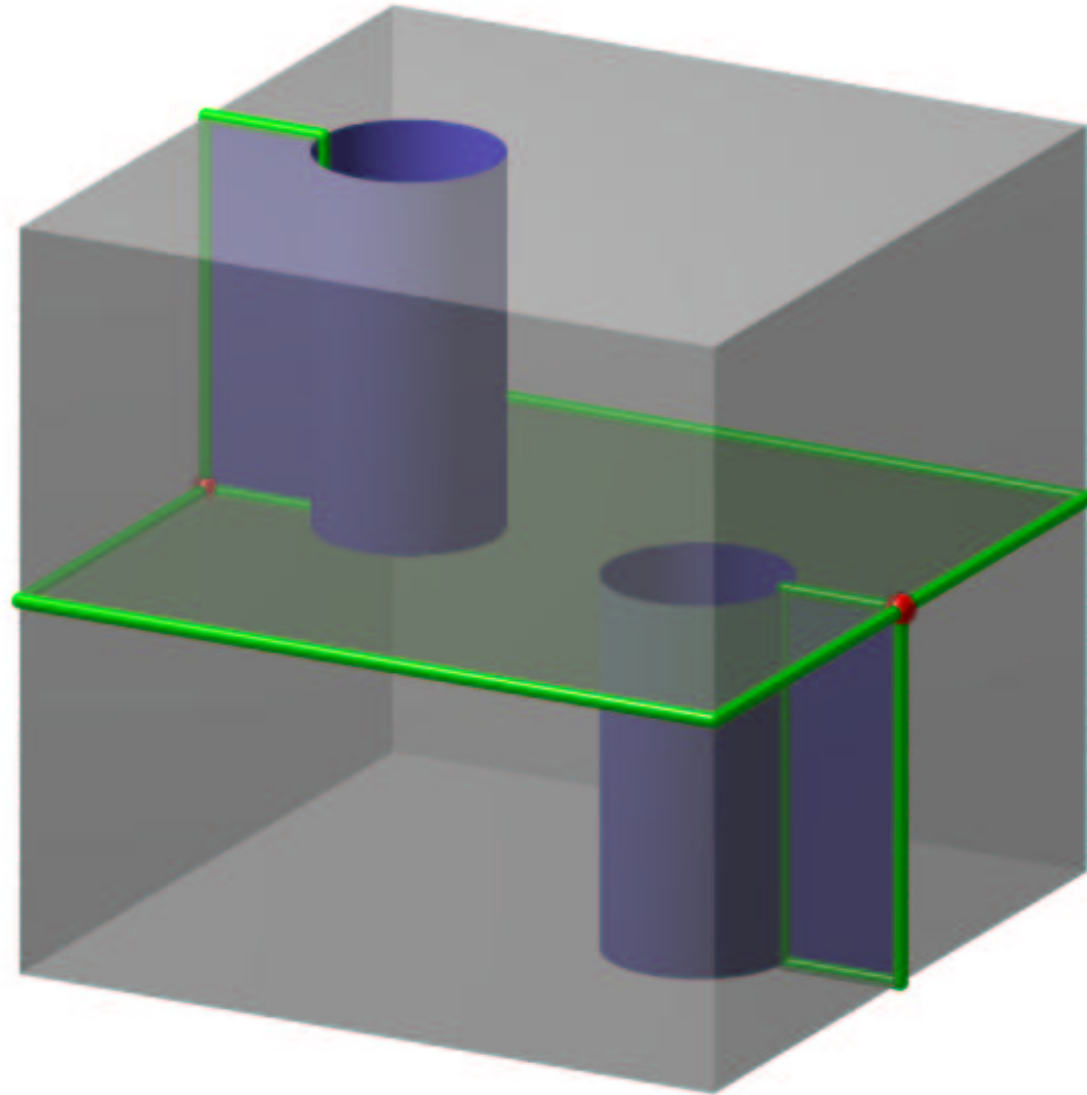
2 regions

+ 1 big region

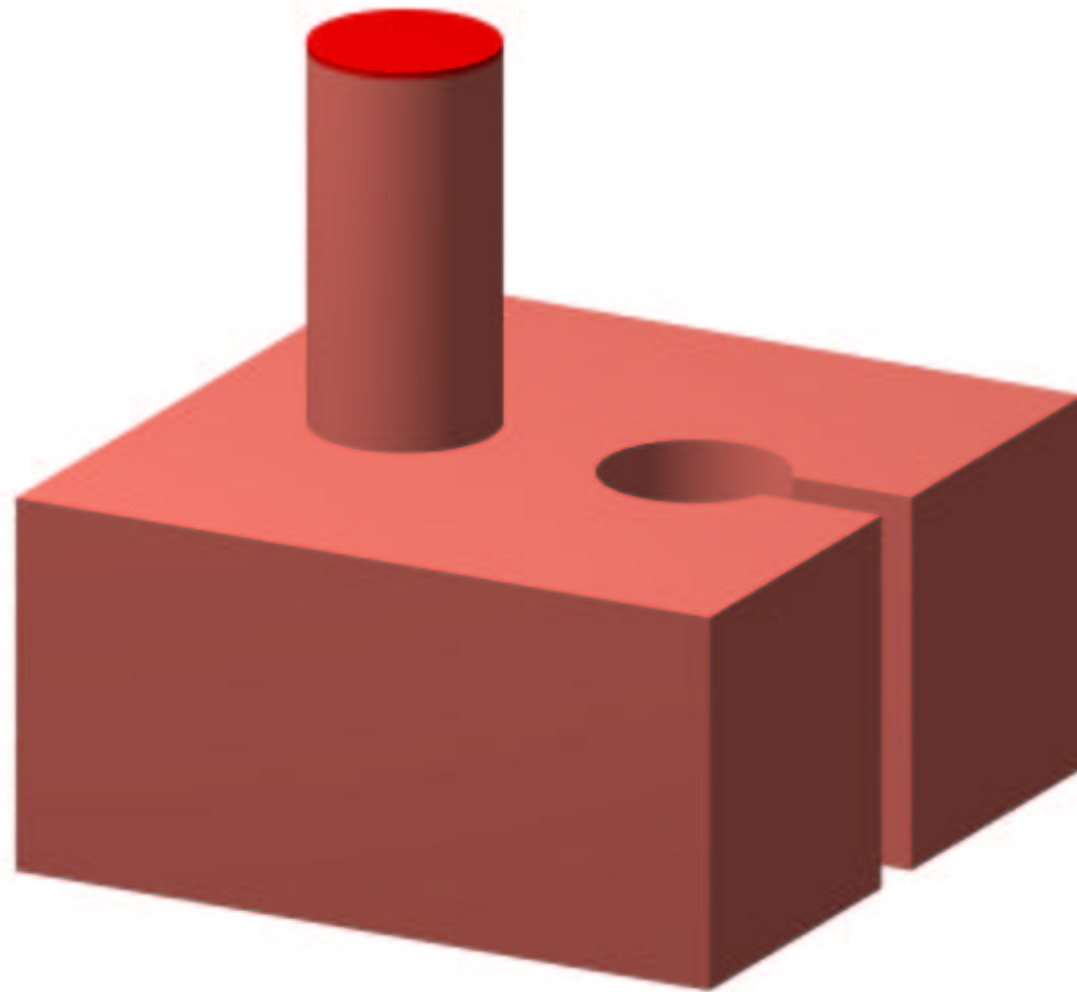
$$\chi = 2 - 4 + 3 = 1$$



Bing's house finished



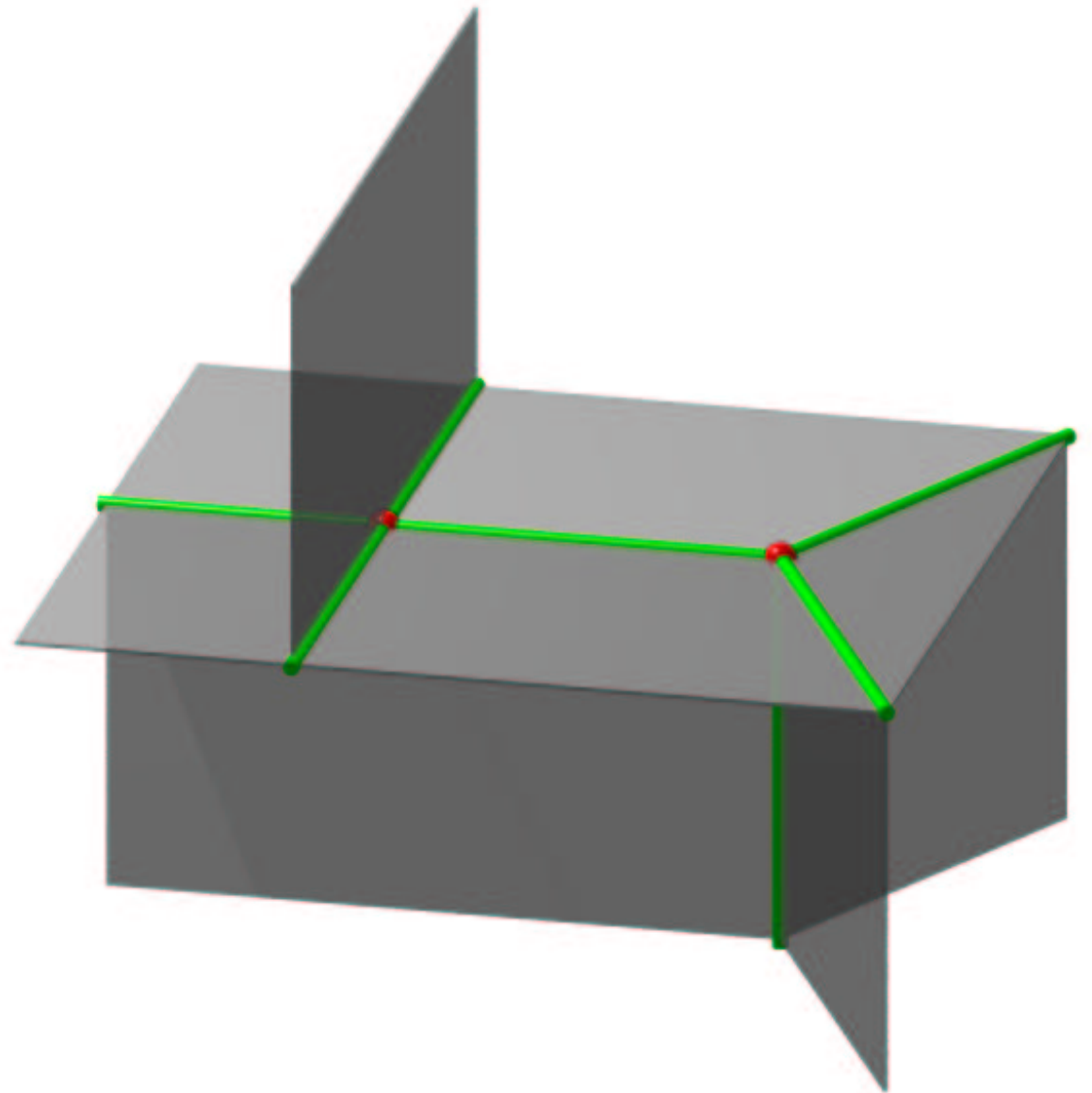
Interior of a room in Bing's house



Thickening of a spine

Stage 0:

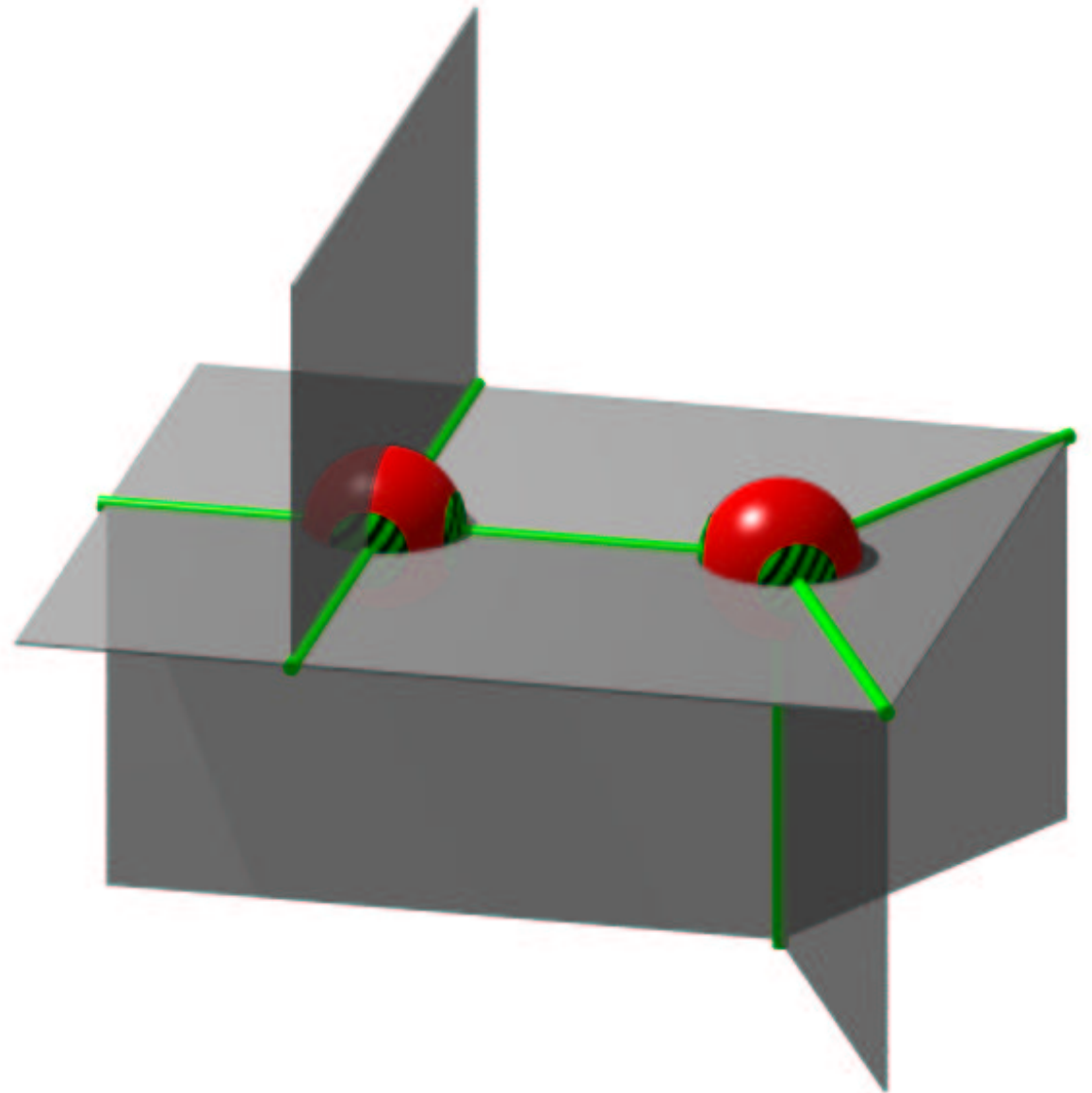
original spine



Thickening of a spine

Stage 1:

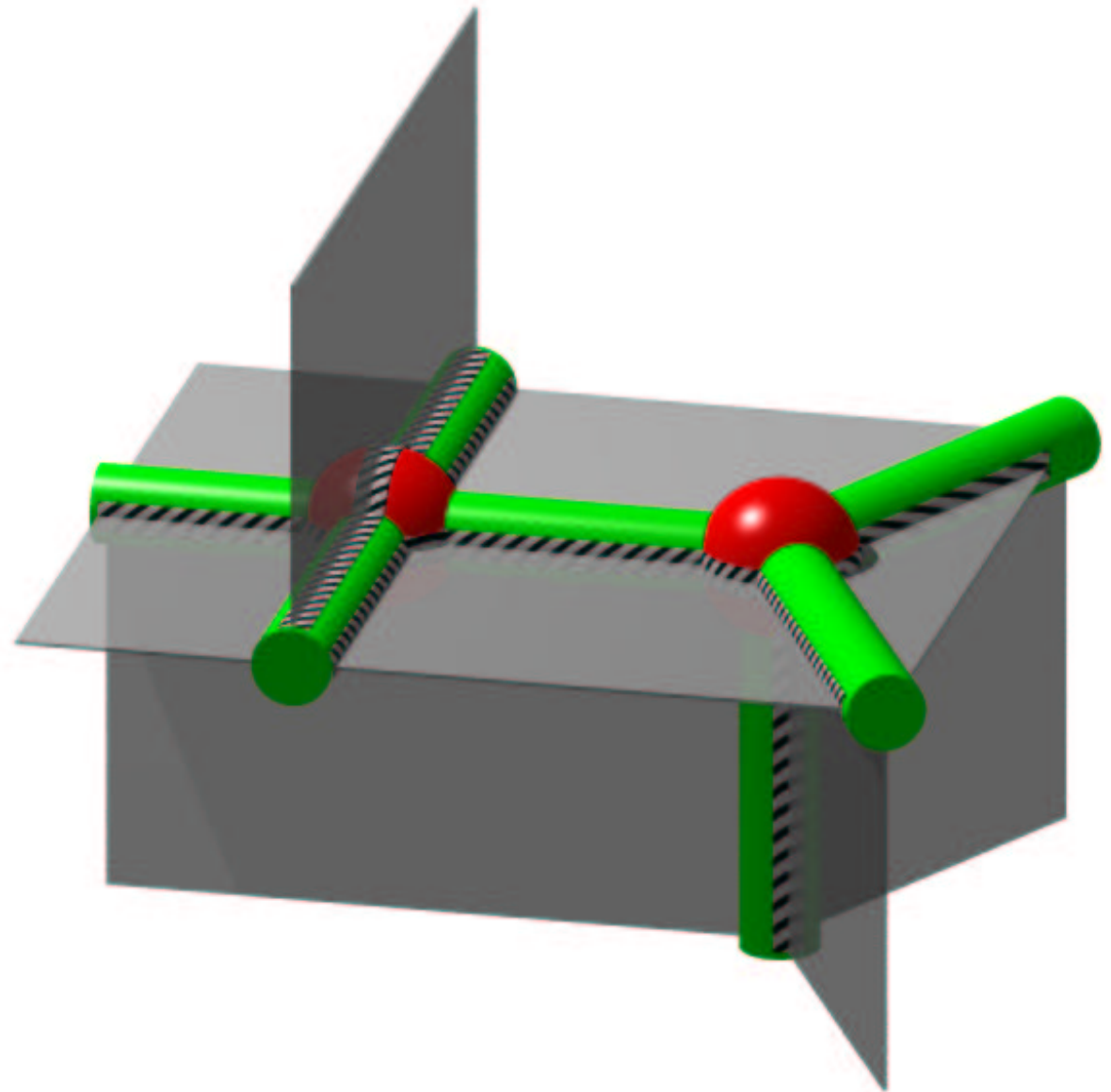
vertices are inflated



Thickening of a spine

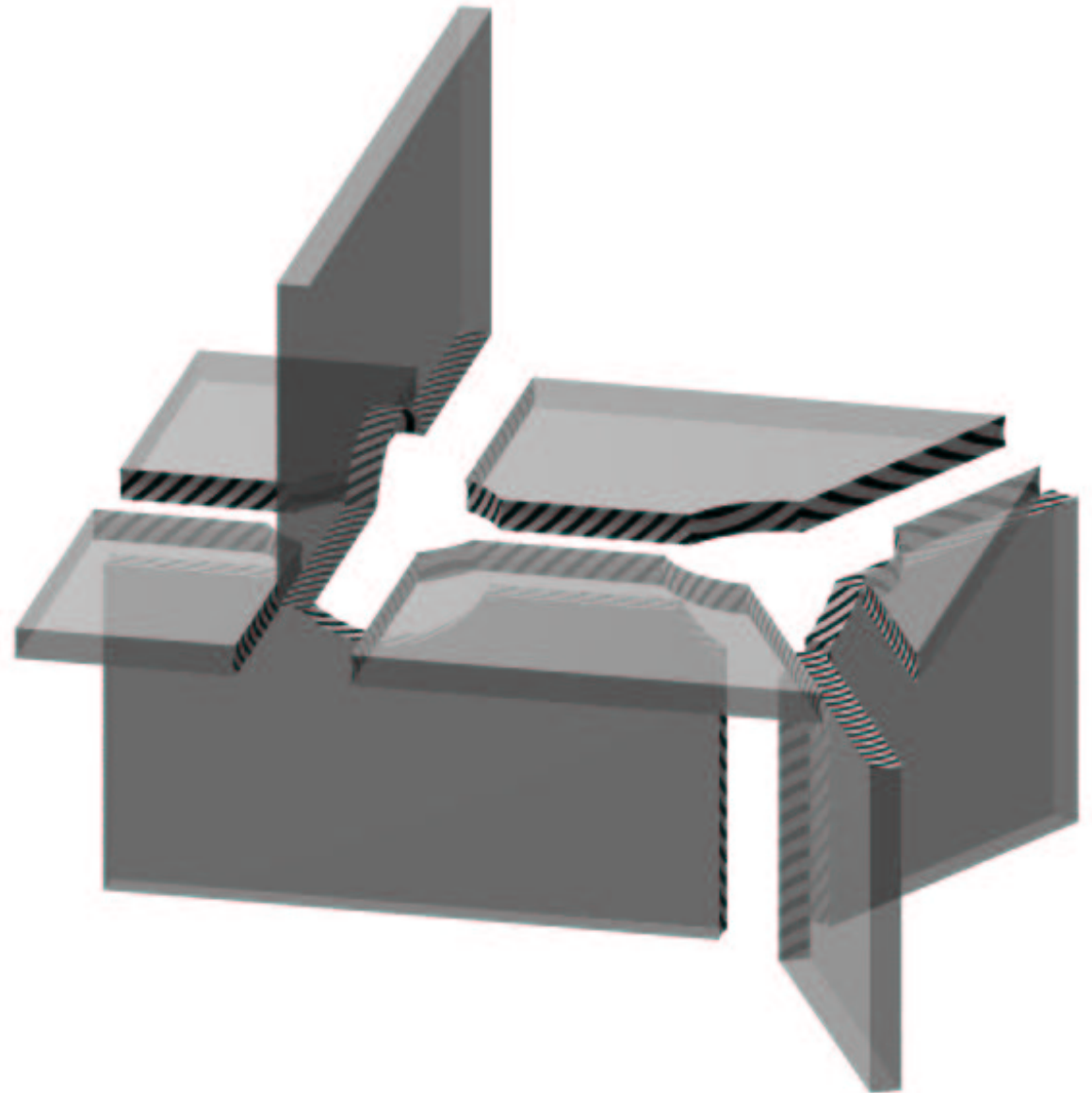
Stage 2:

edges are inflated



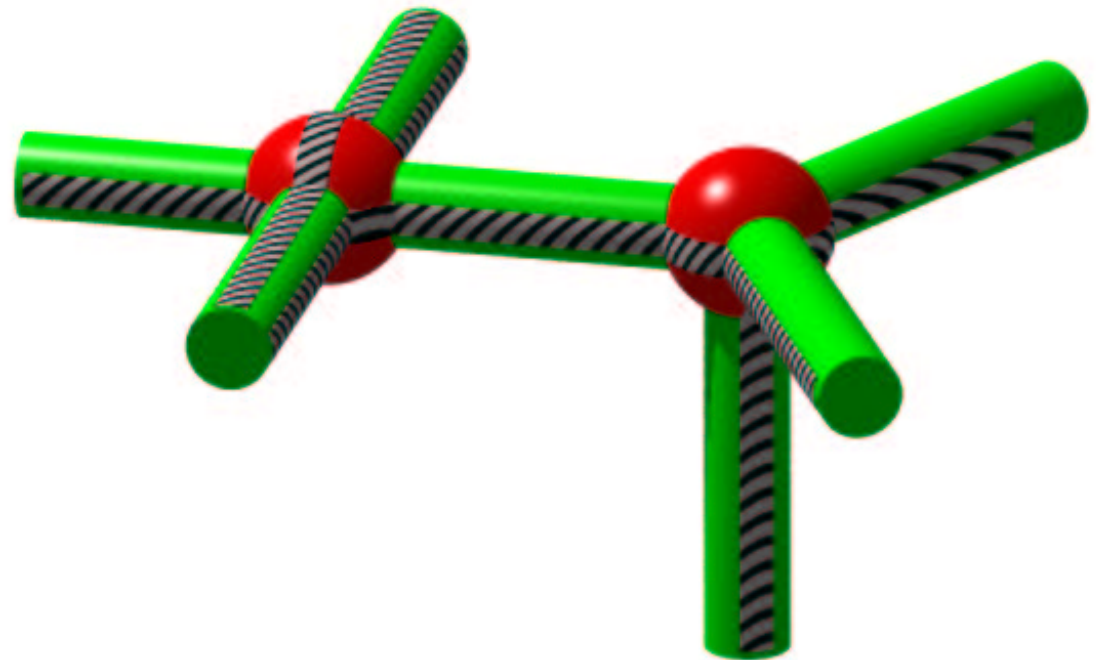
Thickening of a spine

plates to glue



Thickening of a spine

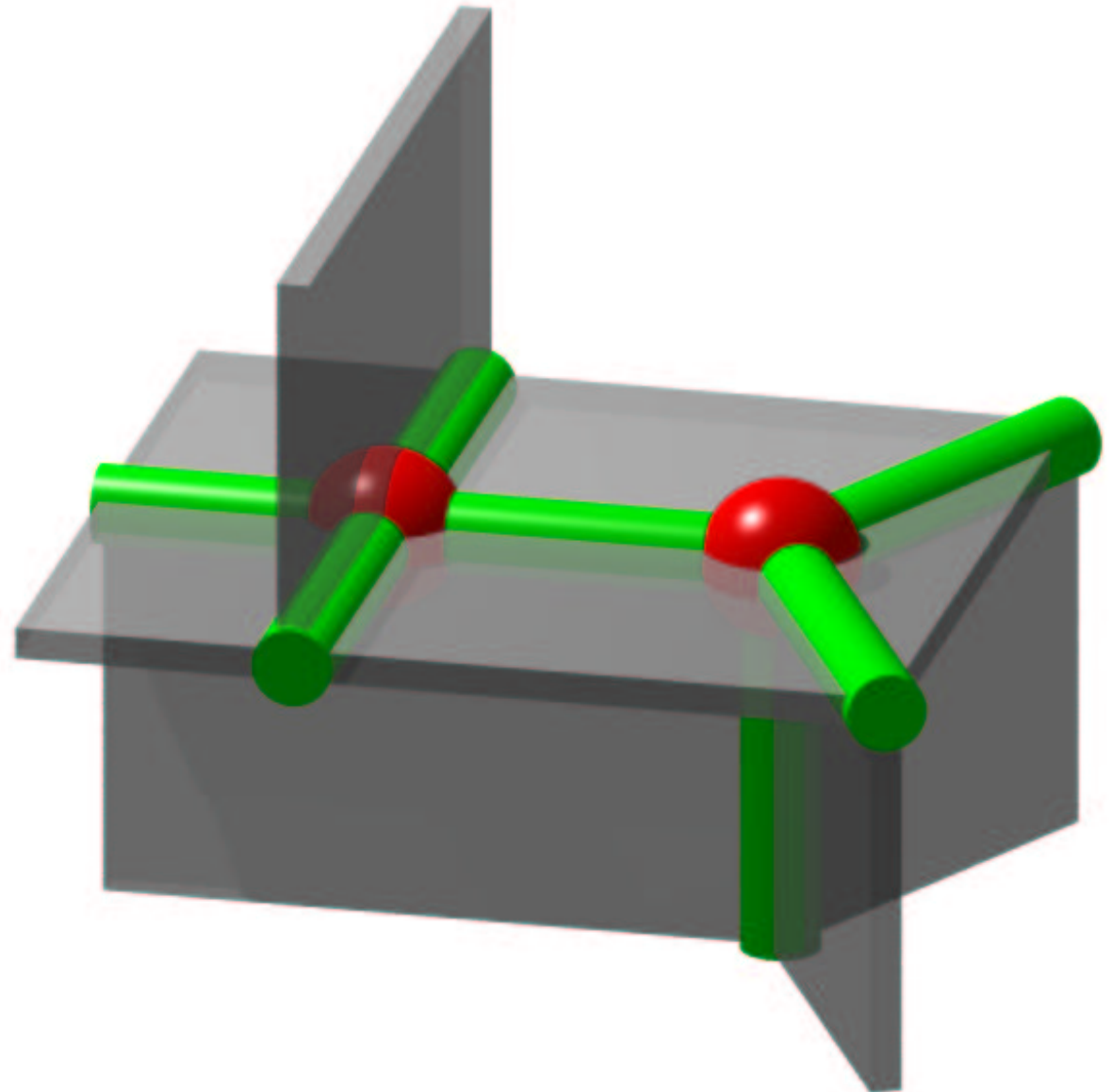
attaching "annuli"



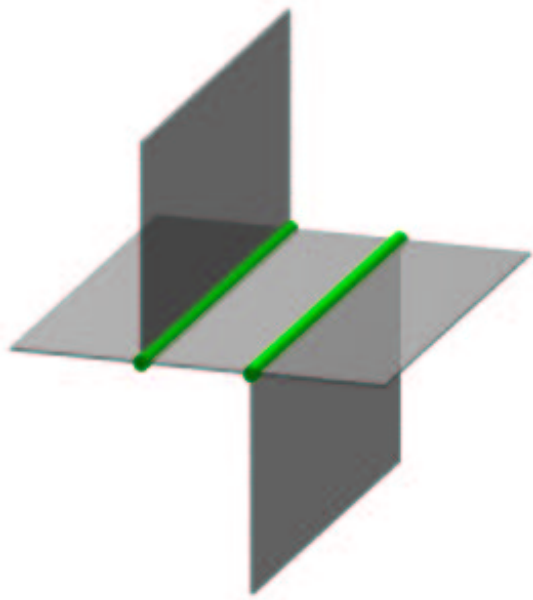
Thickening of a spine

Stage 3:

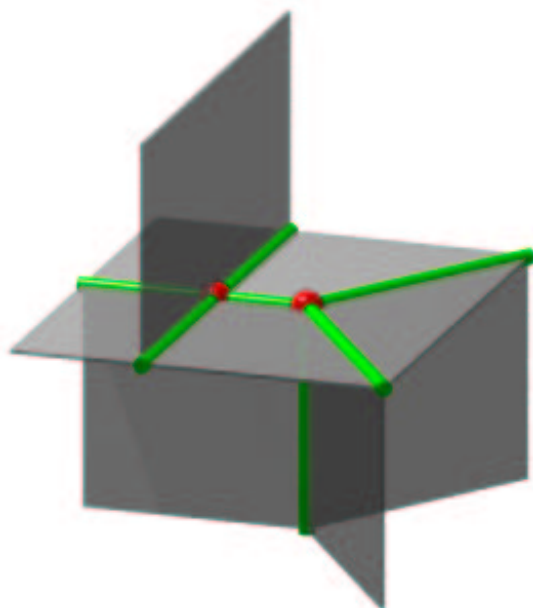
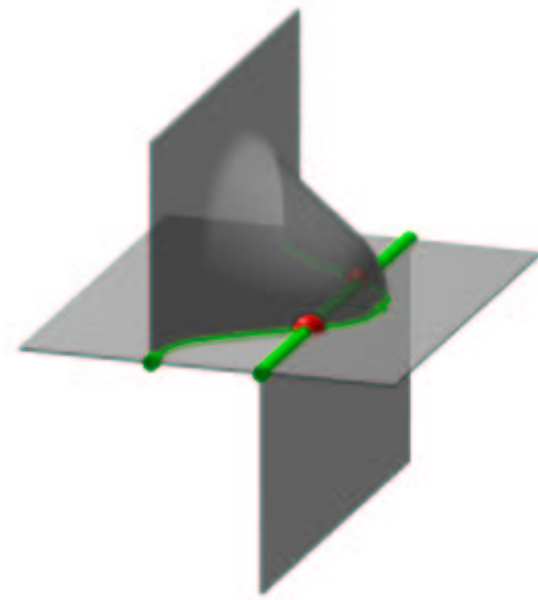
final manifold



Local moves of simple polyhedra



L



T

