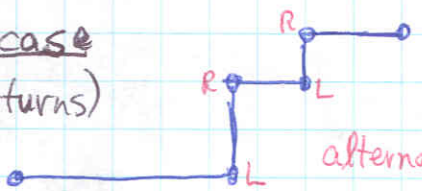
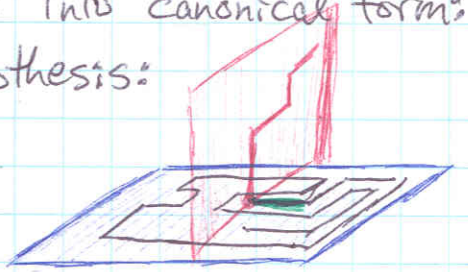
Orthogonal open chains are flat-state connected

6.885
L 16.04
Nov. 8, 2004

- canonical form: staircase
  (alternate left/right 90° turns)

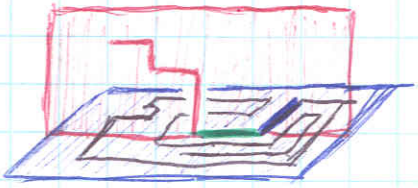


- lift a flat state into canonical form:
  - induction hypothesis:

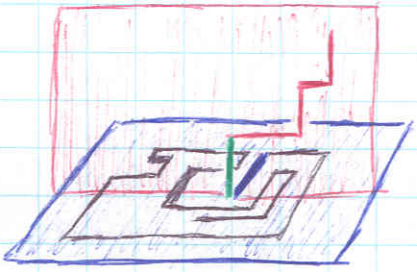


  - half of chain remains in plane
  - half of chain in canonical form in perpendicular plane

① rotate canonical half (& its containing plane) so that next edge makes a larger staircase



② rotate larger staircase (around following edge) to lift into staircase plane



③ repeat

- FedEx via canonical form

Nonacute open chains: similar
- canonical state = z-monotone (⇒ never hit xy-plane)

Equal-angle chains: similar
- canonical state = zig-zag MM - lifting slightly harder

OPEN: general chains?