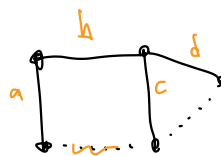


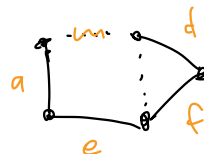
# WXML: Counting spanning trees

• What is a spanning tree?

in a graph / network



• one component



• no cycles

• How many spanning trees are there?

↳ Count using linear algebra "Matrix tree theorem"

• How many spanning trees are there on an "infinitely large" graph?

↳ take limits, asymptote notation

• What does a "random" spanning tree look like?

beyond our scope

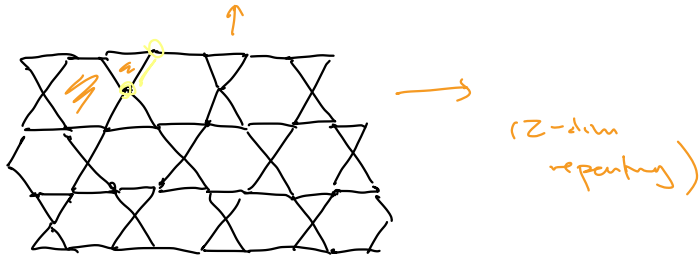
set of walls → has

- no cycles
- one component

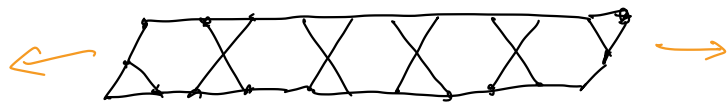


# Kagome lattice

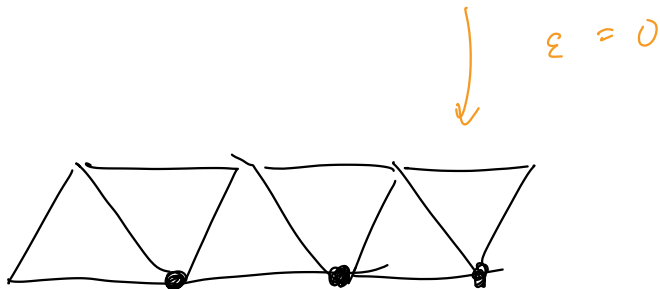
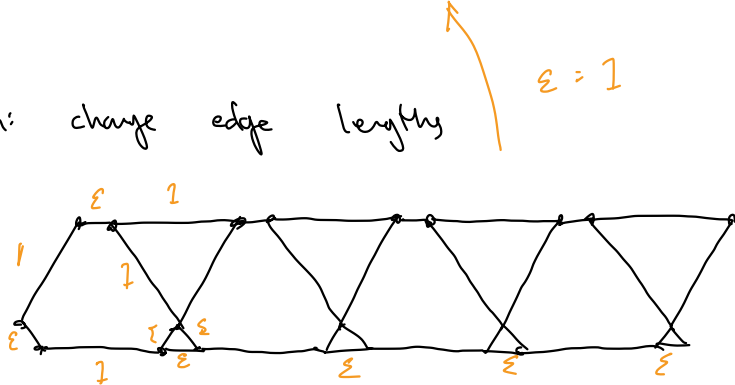
- repeating hexagon - triangle pattern



- Variation: 1-dim slice

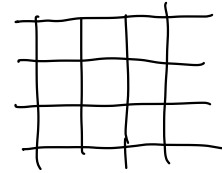


- Variation: change edge lengths

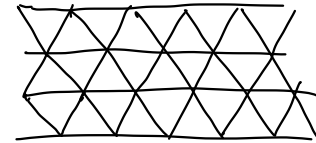


- other lattices:

• square

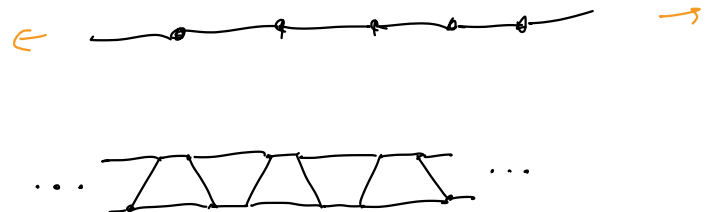


• triangles



• • •

1-dim lattices:



# WXML: Logistics

• Meeting time / place (in person?)  
survey

• Expectations ★ (6.8 hours per week)

• Weekly readings + exercises + problems

• Weekly notes

• Final presentation

• Final paper

on  
Overleaf,  
Latex  
document

• Programming background

- Python? + Sage

- Latex?

• Communication: • email, • discord, • website

(reference links)