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## Session 9

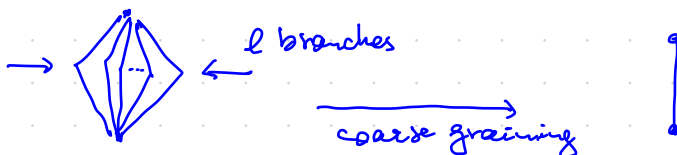
### Exercise 1

Write the Jacobian of the iterative equations for  $K_1$  and  $K_2$  for the Ising model at a fixed point  $(K_1^*, K_2^*)$

Hint: use  $\vec{k} = \vec{k}^* + \delta\vec{k}$  and expand both sides of the iterative equations at first order

### Exercise 2

Given a diamond lattice with  $l$  branches



- find the recursion relation for the Ising model where  $h=0$
- is there a critical point?
- How does the critical point behave as  $l \rightarrow \infty$
- Find the exponent  $y_t$  in the  $l \rightarrow \infty$  limit and comment.