





# The Ising Model

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- What is the transfer matrix equal to for a system of Ising spins?
- The video tells us that we can calculate this partition function by taking the trace of the square of transfer matrix. Calculate this matrix trace and confirm that it is equal to the value that you obtained by manually enumerating all the states
- Explain the meanings of the terms eigenvalue and eigenvector and explain how a diagonalizable matrix can be decomposed in terms of its eigenvalues and eigenvectors
- Explain why the partition function for the Ising model is equal to the sum of the eigenvalues of the transfer matrix raised to the power of the number of spins in the system

