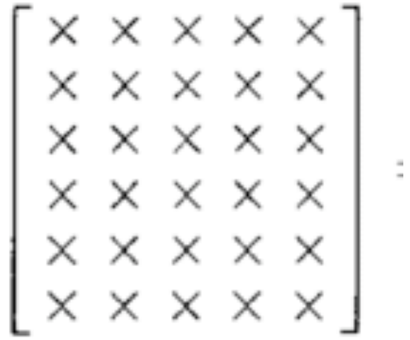
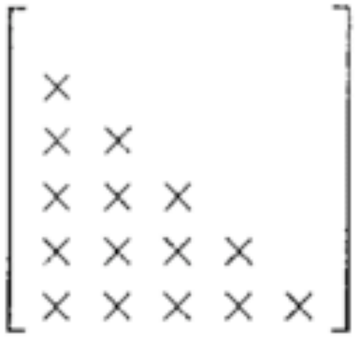
Implementing Normalizing Flows

In general, a determinant calculation is $\mathcal{O}(d^3)$

$$\left| \det \frac{\partial T_\theta(\mathbf{x})}{\mathbf{x}} \right|$$



unless you exploit some structure:



Coupling layer

Need an invertible transformation

Whose Jacobian is triangular

Zhang, Jian, Shifei Ding, and Weikuan Jia. "An adversarial non-volume preserving flow model with Boltzmann priors." *International Journal of Machine Learning and Cybernetics* 11.4 (2020): 913-921.