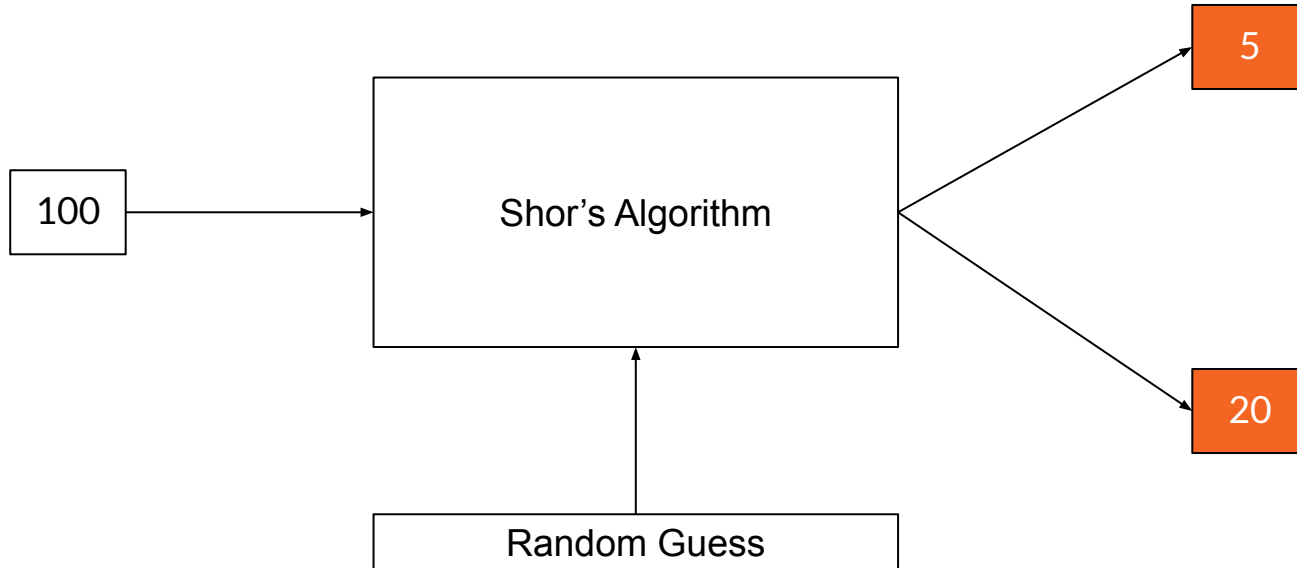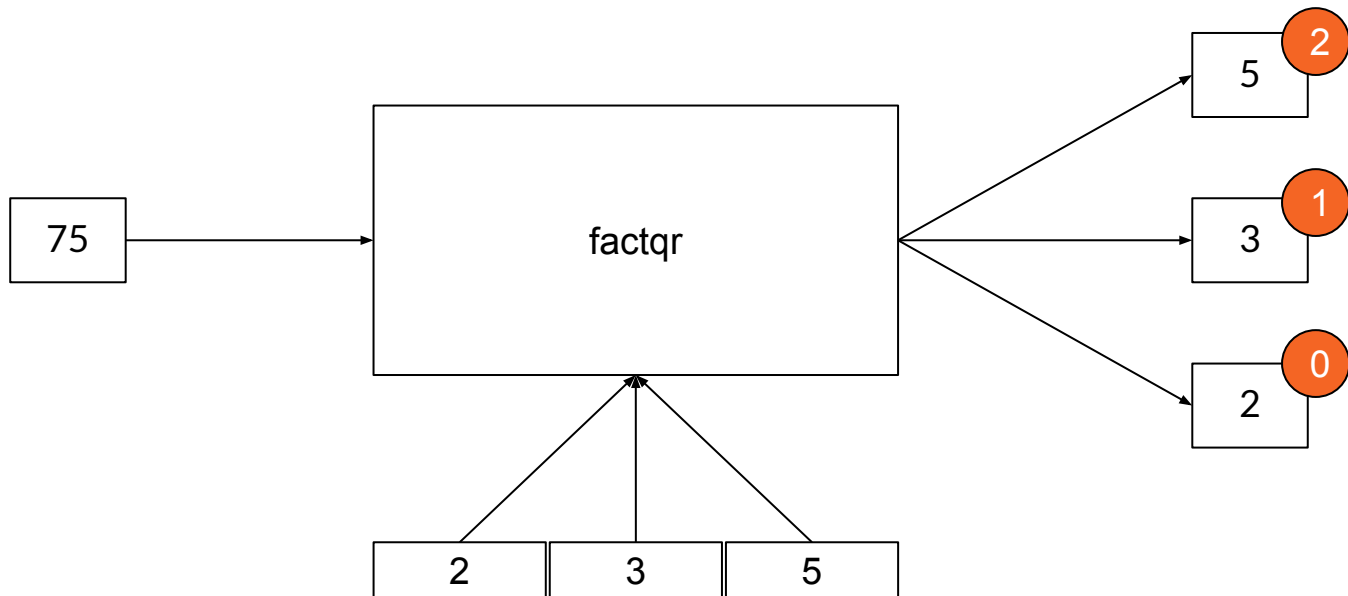# factqr

How it works.

Shor's Algorithm

factqr

Hamiltonian Generator

$$L_c = \ln(N)^2 I - \ln(N)X + \frac{1}{4}X^2$$

$$\text{where } X = \sum_i^n \ln(p_i)I - \sum_i^n \ln(p_i)Z_i$$

$$L_c = AI + \sum_i \ln\left(\frac{N}{\sqrt{\prod_i^n p_i}}\right)Z_i + \sum_{i,j\epsilon n} \ln(p_i)\ln(p_j)Z_iZ_j$$