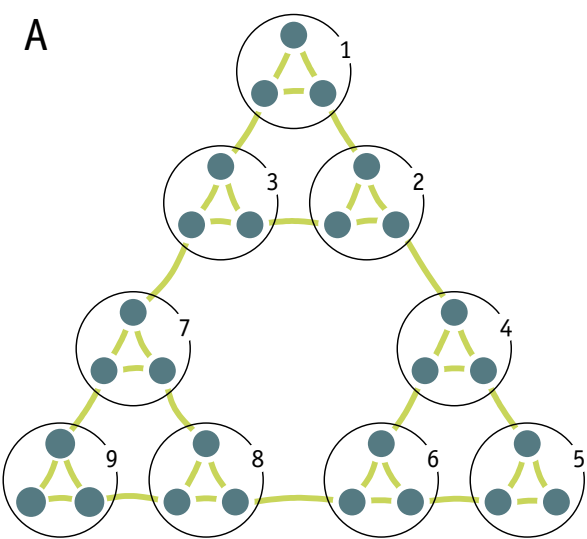
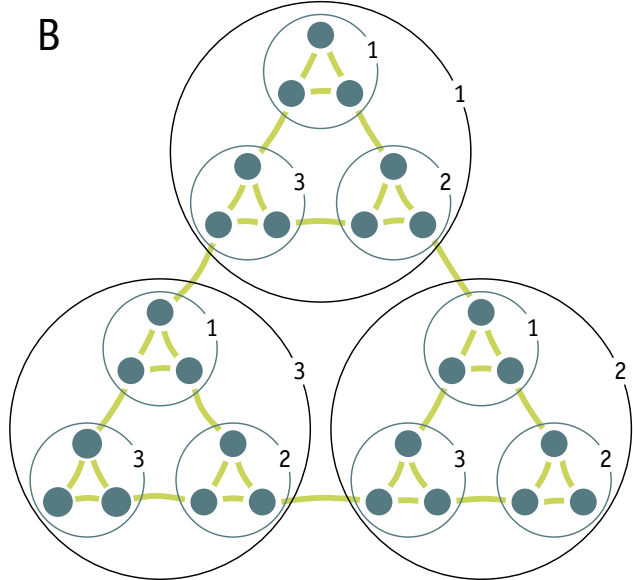


A



$$L(M) = \underbrace{q_{\circlearrowleft} H(\mathcal{Q})}_{0.97 \text{ bits}} + \underbrace{\begin{cases} p_{\circlearrowleft}^1 H(\mathcal{P}^1) \\ p_{\circlearrowleft}^2 H(\mathcal{P}^2) \\ p_{\circlearrowleft}^3 H(\mathcal{P}^3) \\ p_{\circlearrowleft}^4 H(\mathcal{P}^4) \\ p_{\circlearrowleft}^5 H(\mathcal{P}^5) \\ p_{\circlearrowleft}^6 H(\mathcal{P}^6) \\ p_{\circlearrowleft}^7 H(\mathcal{P}^7) \\ p_{\circlearrowleft}^8 H(\mathcal{P}^8) \\ p_{\circlearrowleft}^9 H(\mathcal{P}^9) \end{cases}}_{2.60 \text{ bits}} = 3.57 \text{ bits.}$$

B



$$L(M) = \underbrace{q_{\circlearrowleft} H(\mathcal{Q})}_{0.12 \text{ bits}} + \underbrace{q_{\circlearrowleft}^2 H(\mathcal{Q}^2)}_{0.76 \text{ bits}} + \underbrace{\begin{cases} p_{\circlearrowleft}^{11} H(\mathcal{P}^{11}) \\ p_{\circlearrowleft}^{12} H(\mathcal{P}^{12}) \\ p_{\circlearrowleft}^{13} H(\mathcal{P}^{13}) \\ p_{\circlearrowleft}^{21} H(\mathcal{P}^{21}) \\ p_{\circlearrowleft}^{22} H(\mathcal{P}^{22}) \\ p_{\circlearrowleft}^{23} H(\mathcal{P}^{23}) \\ p_{\circlearrowleft}^{31} H(\mathcal{P}^{31}) \\ p_{\circlearrowleft}^{32} H(\mathcal{P}^{32}) \\ p_{\circlearrowleft}^{33} H(\mathcal{P}^{33}) \end{cases}}_{2.60 \text{ bits}} = 3.48 \text{ bits.}$$