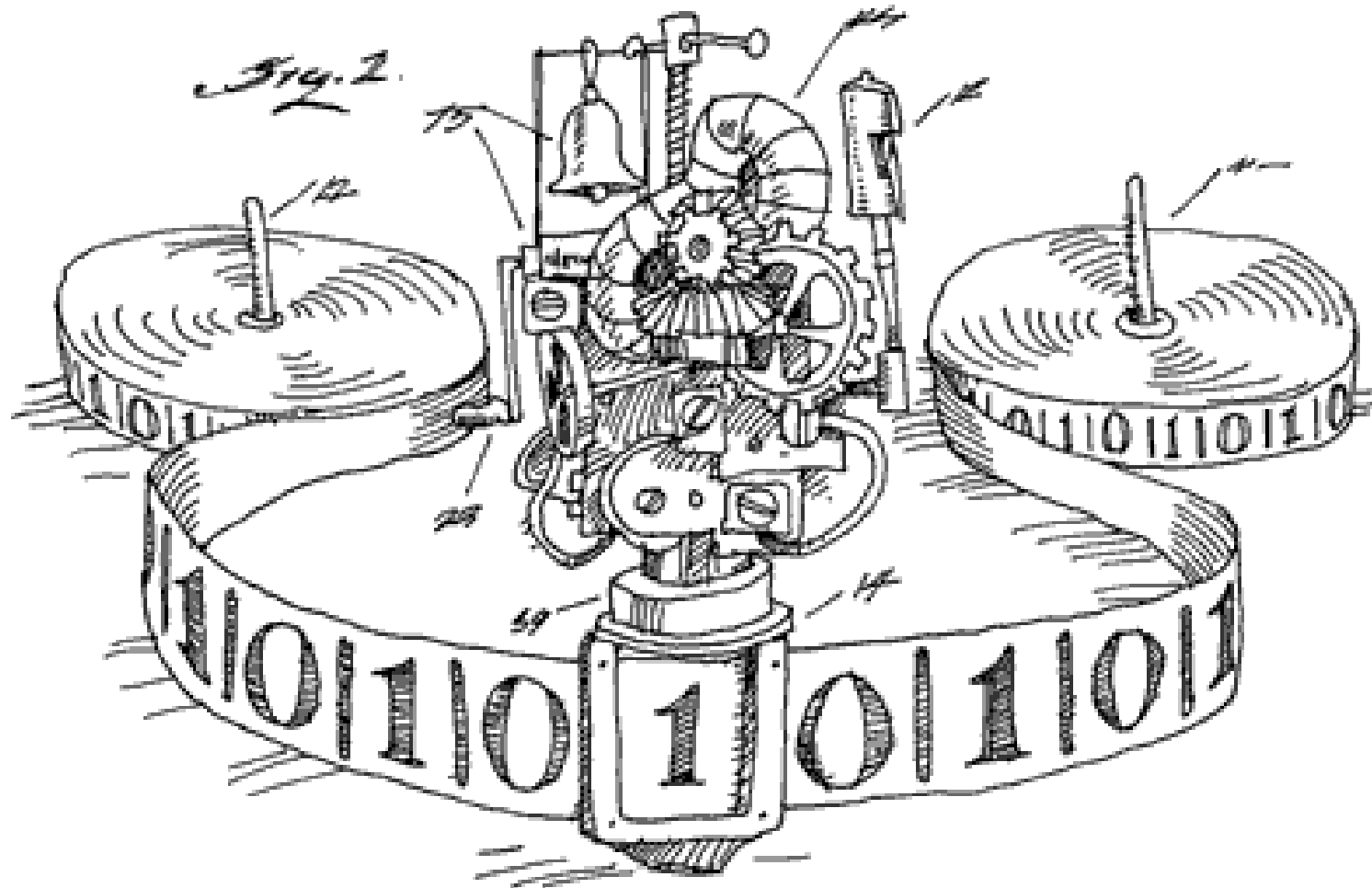
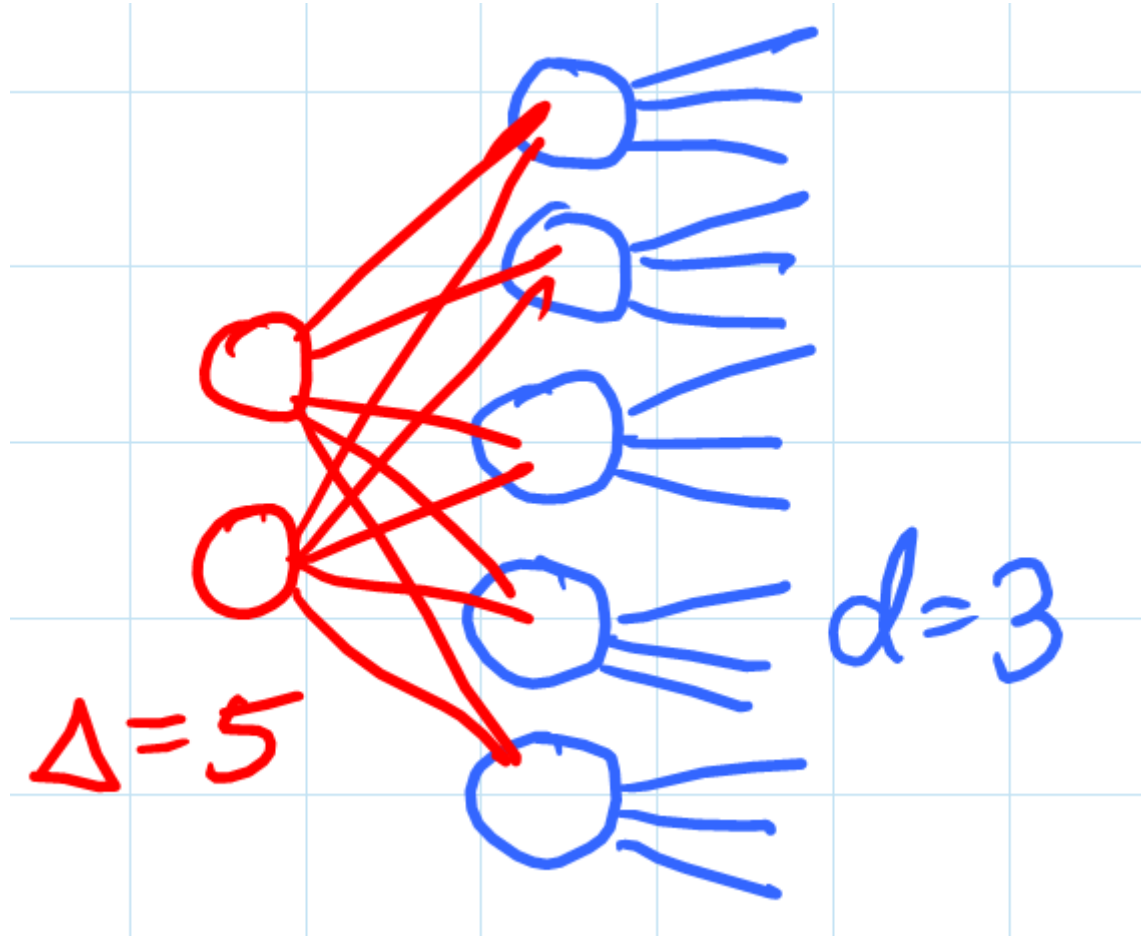


Turing Machine





Clique → Clique in Regular Graphs



Multicolored Clique → Shortest Common Supersequence

$$\mathcal{I} = 1^{7n^3},$$

$$\mathcal{O} = 0^{7n^3},$$

$$\mathcal{E}(u \in V, v \in V) = \begin{cases} \mathcal{I}\mathcal{I} & \text{if } (u = v) \text{ or } (u \in U_i, v \in U_j) \in E : i \neq j, \\ \mathcal{I}\mathcal{O}\mathcal{I} & \text{otherwise,} \end{cases}$$

$$\mathcal{V}(u \in V) = \prod_{j=1}^n \mathcal{E}(u, v_j),$$

$$\mathcal{B}_i = \mathcal{V}(v_1^i) \prod_{j=2}^m \mathcal{O}\mathcal{V}(v_j^i),$$

$$s_i = (\mathcal{B}_i \mathcal{O})^{2n+2n^2} \mathcal{B}_i,$$

$$s_t = (\mathcal{I}\mathcal{O})^{1+2n+2n^2} (\mathcal{I}\mathcal{I}\mathcal{O}\mathcal{I}\mathcal{O})^{m-2} \mathcal{I}\mathcal{I}\mathcal{O}\mathcal{I}.$$

$$\mathcal{T}_{\mathcal{I}\mathcal{O}\mathcal{I}} = (\mathcal{I}\mathcal{O}\mathcal{I})^n,$$

$$\mathcal{T}_{\mathcal{I}\mathcal{I}} = (\mathcal{I}\mathcal{I})^n,$$

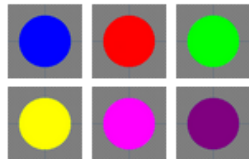
$$|s_t| + (1 + 2n + 2n^2)(n - k) = \lambda$$

$$\mathcal{T} = (\mathcal{T}_{\mathcal{I}\mathcal{O}\mathcal{I}} \mathcal{O})^{m-1} \mathcal{T}_{\mathcal{I}\mathcal{I}}.$$

[Pietrzak 2003]



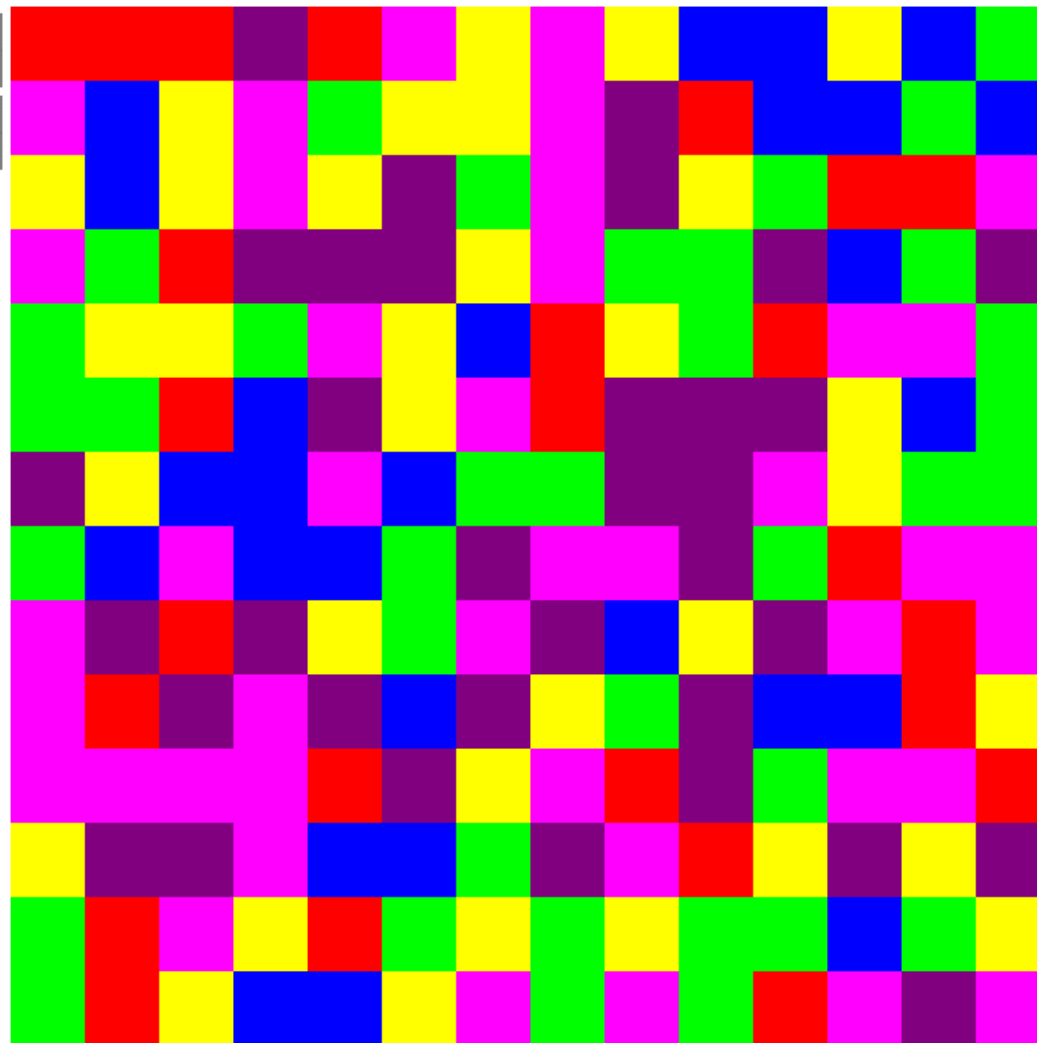
Flood-It [LabPixies 2006]



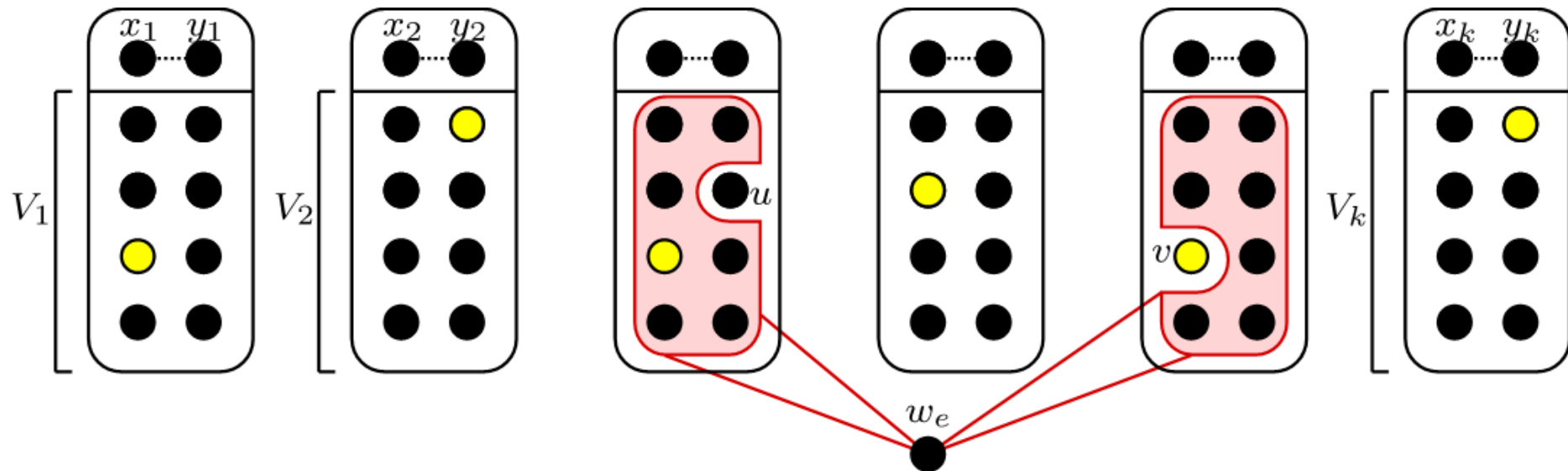
Tour : 0 / 25

New Game

Help!

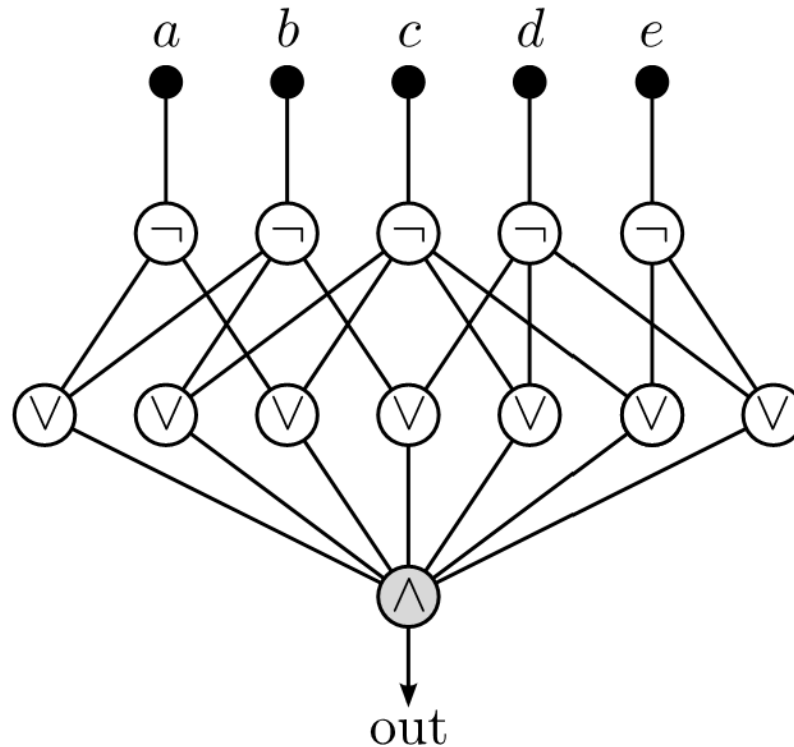
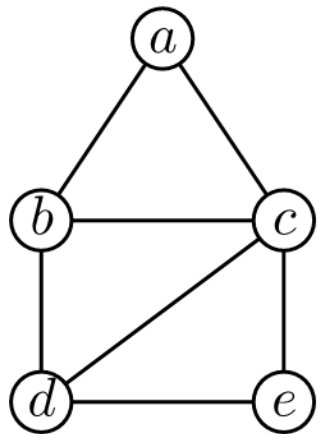


Multicolored Independent Set → Dominating Set

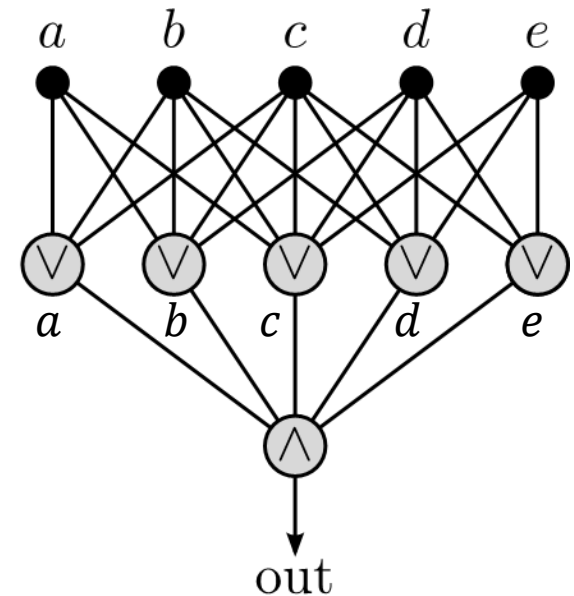


$W[1]$ vs. $W[2]$

independent set



dominating set





Weft

