

Lemma 12.29 For the Markov chain represented by the graph G as shown, a nonempty atom A of \mathcal{F}_n is a Type I atom if and only if

$$\mathcal{N}_n \setminus U_A = \{l, l+1, \dots, u\},$$

where $1 \leq l \leq u \leq n$, i.e., the indices of the set variables in A which are not complemented are consecutive.