Vertex degree condition for a 1-binding graph to contain a 1-factor

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Let G be a graph with vertex set V. The *neighborhood $N(S)$ of $S \subseteq V$* is the set of vertices adjacent to some vertex of S. The *binding number* of a graph G, denoted $\text{bind}(G)$, is the minimum of the ratio $|N(S)|/|S|$, taken over all non-empty $S \subseteq V$ such that $N(S) \neq V$. A *k-factor* of a graph is a spanning k-regular subgraph. In particular, a 1-factor is a perfect matching. We give a vertex degree condition to guarantee that a 1-binding graph contains a 1-factor, which is best in the same sense as Chvátal's well-known hamiltonian degree condition.

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