Chordal Graphs and Some of Their Applications

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Given a cycle in a simple graph, a chord is an edge that connects two nonconsecutive vertices on the cycle. A graph in which every cycle of length 4 or greater has a chord is called a chordal graph. Equivalently chordal graphs are defined to be the graphs that are C_n-free for all $n \geq 4$. We will study some characterizations of chordal graphs, finishing with a taste of their applications to biology and matrix analysis.