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Graphentheorie

3. Übungsblatt WS 05/06
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Exercise 11

Prove that a graph is connected iff for every partition $V(G) = V_1 \cup V_2$, there exists an edge of G joining a vertex of V_1 and a vertex of V_2.

Exercise 12

Let G be a graph with $V(G) = \{v_1, v_2, \ldots, v_7\}$ such that $G - v_i = K_{2,4}$ for $i = 1, 2, 3$ and $G - v_i = K_{3,3}$ for $i = 4, 5, 6, 7$. Show that G is reconstructible.

Exercise 13

Determine the labeled tree having Prüfer sequence $(4, 5, 7, 2, 1, 1, 6, 6, 7)$.

Exercise 14

Let v be a fixed vertex of $G = K_n$. Determine the number of spanning trees of G in which v is an end-vertex.

Exercise 15

Are there graphs G of order n other than K_n with $a(G) = \lceil \frac{n}{2} \rceil$?