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Jahr: 1973

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"Let $\mathbf{G} \in \mathfrak{G}_n^*$. *Then a partition*

$$\{\{u_{i(1)}, \ldots, u_{i(a)}\}, \{u_{i(a+1)}, \ldots, u_{i(n)}\}\} \quad \text{of} \quad \{u_1, \ldots, u_n\}$$

exists such that

(j) $$1 \leqq a \leqq \left[\frac{n}{2}\right]$$

(jj) $$\max \{d_{i(1)}(\mathbf{G}), \ldots, d_{i(a)}(\mathbf{G})\} \leqq n - a$$

(jjj) $$\max \{d_{i(a+1)}(\mathbf{G}), \ldots, d_{i(n)}(\mathbf{G})\} \leqq a \,."$$

Also the remaining assertions of this paper may be formulated in a "complementary" fashion.

In the conclusion we present the following problem: Theorems 1 and 3 are certain necessary conditions for n given nonnegative integers to be representable as degrees of a certain graph $\mathbf{G} \in \mathfrak{G}_n$. We find it interesting to look for some necessary and sufficient conditions.

References

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