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On a linear diophantine problem of Frobenius. (In English)

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Let $a_1, \ldots, a_n$ be a sequence of integers satisfying $(a_1, \ldots, a_n) = 1$. Denote by $G(a_1, \ldots, a_n)$ the greatest integer N for which $N = \sum_{i=1}^{n} c_i a_i$, $c_i \geq 0$ integer, has no solution. The problem of determining or estimating $G(a_1, \ldots, a_n)$ is due to Frobenius and the problem has a large literature. The authors prove among others

$$G(a_1, \ldots, a_n) \leq 2a_{n-1} \left[\frac{a_n}{n}\right] - a_n.$$

Put $g(n,t) = \max_{a_i} G(a_1, \ldots, a_n)$ where the maximum is taken over all the a_i satisfying $0 < a_1 < \ldots < a_n \leq t$, $(a_1, \ldots, a_n) = 1$. Several results are proved about $g(n,t)$ and some open problems are stated one of which has been settled in a recent paper of *M. Lewin* [cf. the preceding review, J. Lond. Math. Soc., II. Ser. 6, 61-69 (1972; Zbl 246.10009)].

Classification:
11D04 Linear diophantine equations