Let $f(n)$ denote the smallest integer f such that one can color the integers $\{1, 2, \ldots, n-1\}$ by f colors so that there is no monochromatic subset the sum of whose elements is n. It is shown that

$$\Omega\left(\frac{n^{1/3}}{\log^{4/3} n}\right) \leq f(n) \leq O\left(\frac{n^{1/3}(\log\log n)^{1/3}}{\log^{1/3} n}\right).$$

The lower bound settles a problem of Erdős.

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