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Upper bound of $\sum 1/(a_i \log a_i)$ *for primitive sequences.* (In English)

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A sequence $\mathcal{A} = \{a_i\}$ of positive integers $a_1 < a_2 < \cdots$ is called primitive if $a_i \nmid a_j$ for $i \neq j$. Define $f(\mathcal{A}) = \sum_{a \in \mathcal{A}} (1/a \log a)$. In 1935, the first author proved that there exists an absolute constant c such that $f(\mathcal{A}) < c$ for any primitive sequence $\mathcal{A}$. The main result of this paper is that $c = 1.84$ is admissible. The authors also give a necessary and sufficient condition for a more recent conjecture of the first author namely that for any primitive sequence $\mathcal{A}$,

$$\sum_{a \leq n, a \in \mathcal{A}} \frac{1}{a \log a} \leq \sum_{p \leq n} \frac{1}{p \log p} \qquad (n > 1),$$

where p denotes a prime number.

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