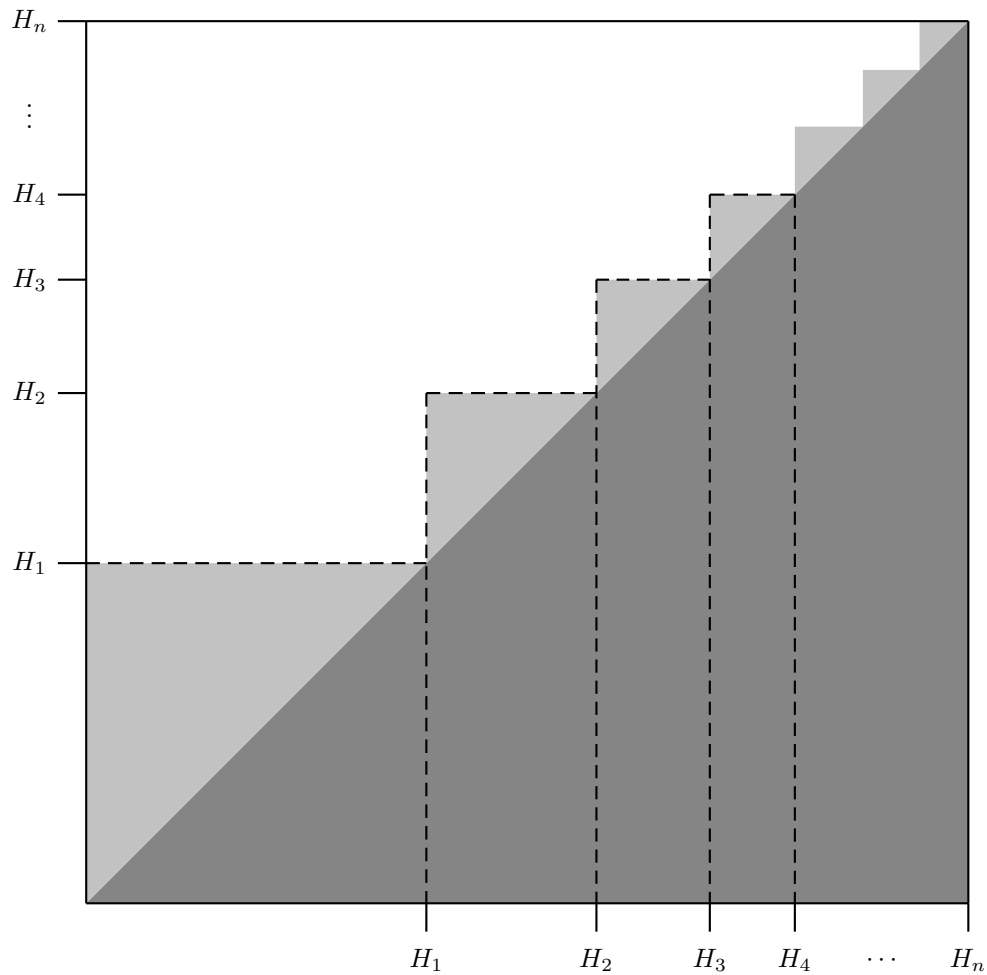


A Harmonic Number Identity

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$$H_k = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \cdots + \frac{1}{k}$$

↓

$$\sum_{k=1}^n \frac{H_k}{k} = \frac{1}{2} H_n^2 + \frac{1}{2} \sum_{k=1}^n \frac{1}{k^2}$$

or

$$\sum_{k=1}^n \frac{H_k}{k} = \frac{1}{2} \left[\left(\sum_{k=1}^n \frac{1}{k} \right)^2 + \sum_{k=1}^n \left(\frac{1}{k} \right)^2 \right]$$