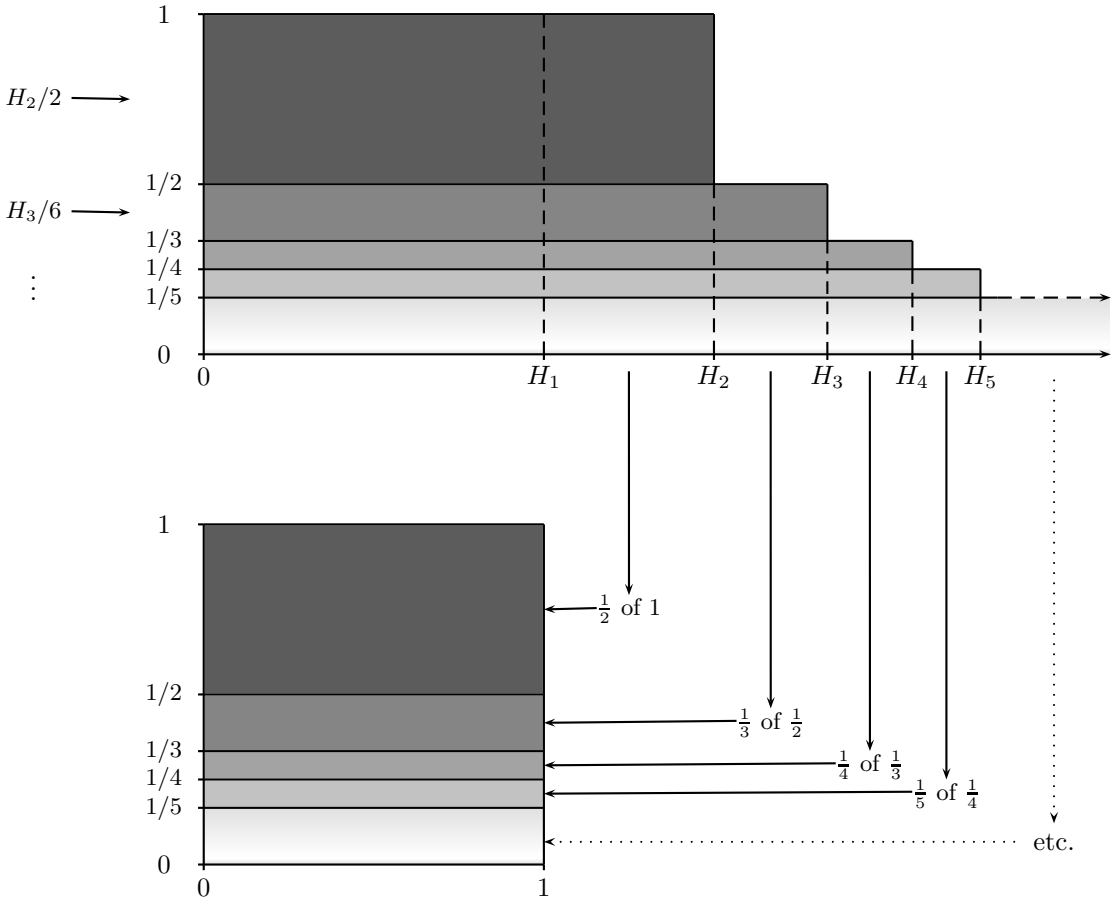
Proof Without Words: A Series Involving Harmonic Sums*

Given $$H_n = 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \cdots + \frac{1}{n}$$

Show that $$\sum_{n=1}^{\infty} \frac{H_{n+1}}{n(n+1)} = \frac{H_2}{2} + \frac{H_3}{6} + \frac{H_4}{12} + \frac{H_5}{20} + \cdots = 2$$



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