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If a,b,c >0 ,then prove that

$$\sum \frac{a}{b} - \frac{\sum a^2}{\sum ab} \geq 2$$

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Solution by Cosghun Memmedov-Azerbaijan

$$\sum \frac{a}{b} = \sum \frac{a^2}{ab} \overset{Bergstrom}{\geq} \frac{(\sum a)^2}{\sum ab} = \frac{\sum a^2 + 2\sum ab}{\sum ab} =$$

$$= 2 + \frac{\sum a^2}{\sum ab} \implies \sum \frac{a}{b} - \frac{\sum a^2}{\sum ab} \geq 2$$