

# ROMANIAN MATHEMATICAL MAGAZINE

If  $a, b > 0, ab = 1$  then:

$$a^b b^a \leq 1$$

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*Solution by Daniel Sitaru-Romania*

$$a^b b^a \stackrel{AM-GM}{\geq} \frac{ab + ba}{a + b} = \frac{1 + 1}{a + b} = \frac{1}{\frac{a+b}{2}} \stackrel{AM-GM}{\geq} \frac{1}{\sqrt{ab}} = 1$$

Equality holds for  $a = b = 1$ .