Cute Inequality

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Solution

Cute Inequality

Let $a, b, c \geq 1$ be real numbers. Show that $a + b + c - abc \leq 2$.

We have

$$0 \leq (a-1)(b-1)(c-1) + (a-1)(b-1) + (b-1)(c-1) + (c-1)(a-1) = abc - a + b + c + 2,$$

from which the inequality follows. ■