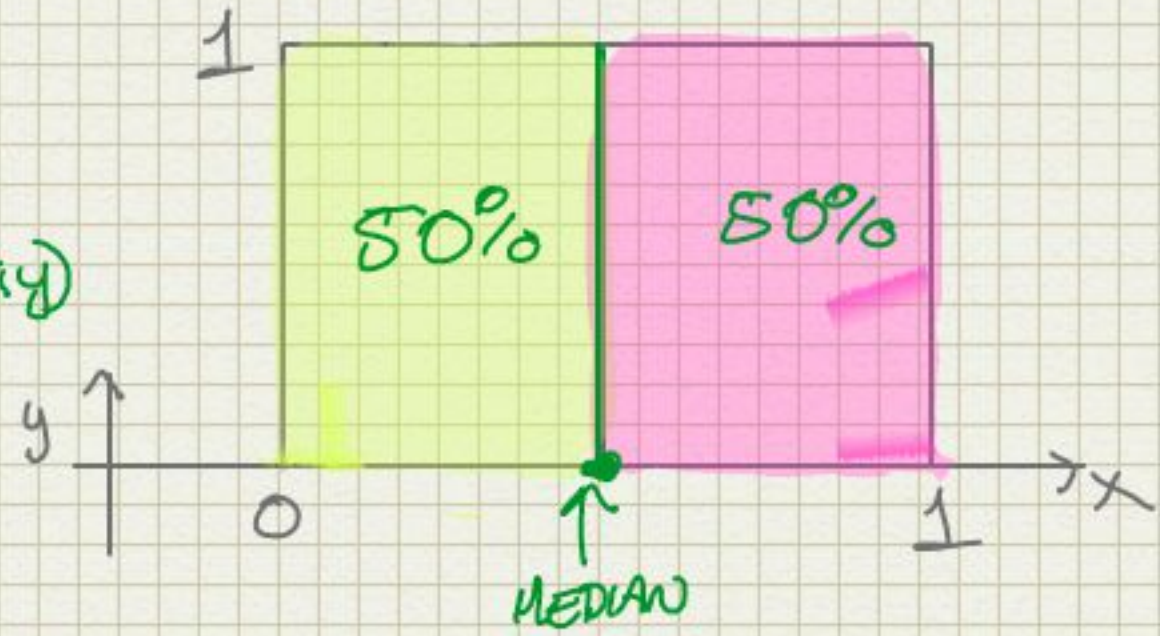
A random variable X, is uniform, a box from 0 to 1 height 1. (So that it's density is $f(x) = 1$ for $0 \leq x \leq 1$) What is it's median expressed to two decimal places?



MEDIAN: POINT SO THAT 50% OF DATA (OR DENSITY) LIES BELOW IT

MEDIAN

$$\int_0^{x_m} f(x)\,dx = 0.5$$

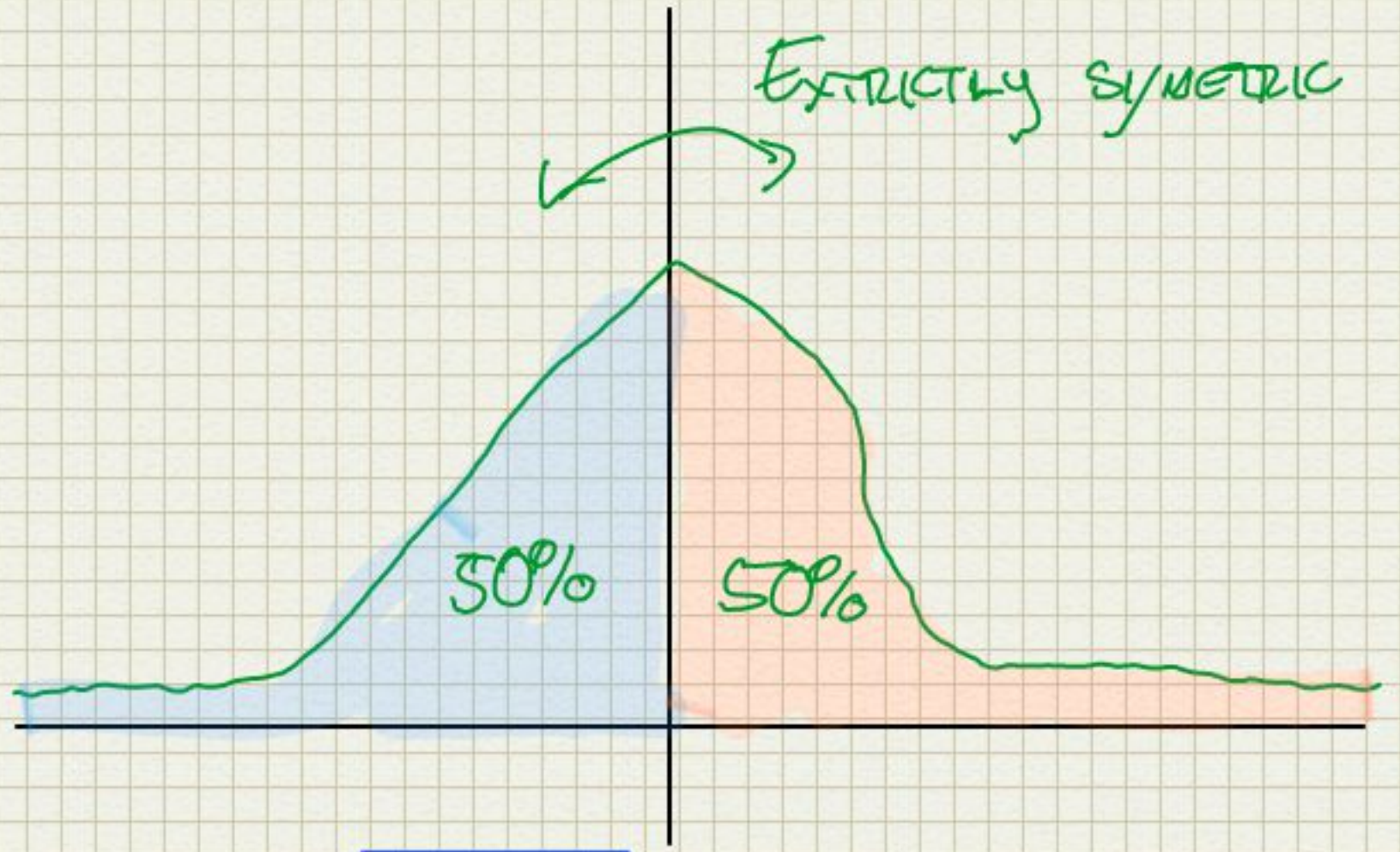
$$\int_0^{x_m} 1\,dx = 0.5$$

$$x\Big|_0^{x_m} = 0.5$$

$$x_m - 0 = 0.5$$

$$\boxed{x_m = 0.5}$$

If a continuous density that never touches the horizontal axis is symmetric about zero, can we say that its associated median is zero?



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YES