

# Selftest

Use Monte Carlo and 100,000 sample points to calculate the area of an annulus with radii 0.5 and 1. If the center of the annulus is 0, then the annulus is defined by

$$\{(x, y) \mid 0.5 < \sqrt{x^2 + y^2} < 1\}.$$

Notice that the annulus is enclosed in the square of length 2 with (0,0) as the center.

And, by the way, we can analytically determine its area to be  $\frac{3\pi}{4}$ .

