

Monte Carlo

Estimate expected values by sampling

$$\frac{\pi}{4} = \mathbb{E}[x^2 + y^2 \leq 1]$$

$$\approx \frac{1}{M} \sum_{s=1}^M [x_s^2 + y_s^2 \leq 1]$$

$$x_s, y_s \sim \mathcal{U}(0, 1)$$

