Variance and Convergence

$$Var\left(E\{(x-\mu)^2\}\right)$$

$$Var(\hat{I}) = \frac{(b-a)^2}{n} Var(f(x))$$

This is good and goes $\sigma \sim \frac{1}{\sqrt{n}}$ for small # of dimensions. But, w/ higher dimensions variance gets exponentially worse.

Multi-Dimensional Case

Combine w/ Monte-Carlo Integration