Lab-16

1. Sample mean integration

   Find the value of $\int_0^1 \exp(x)\ dx$ using sample mean integration. Find the distribution of integral values for different number of function evaluations (10, 100, 1000, 10000, ... etc). Plot the width of the distribution as a function of number of function evaluations.

2. Importance sampling

   Find the value of $\int_0^{100} x\exp(-x)\ dx$ using sample mean integration as well as using importance sampling for the same number of function evaluations. Compare your results.