

CUDA seminar.

Tasks:

1. Reduction

Compute definite integral via Monte-Carlo:

$$\int_{-2}^2 \int_{-2}^2 \exp(-x^2 - y^2) \, dx \, dy$$

2. Histogram

Generate random matrix 1024 x 1024 of integers in range [0, 9].

Calculate the total quantity of each number 0, 1, ..., 9.

3. Scan

Compute the following integral with 2^{20} points of discretization:

$$f(x) = \int_{-\infty}^x \exp(-\xi^2) \, d\xi$$
