

Random Numbers in C++11

Exercises

- Give an outline description of how to obtain random numbers in modern C++

Random Number Engine

- What is the purpose of a random number engine?
- Which random number engine is usually the best one to use?

Distribution Types

- What is the purpose of a distribution type?
- Which distributions are most useful when generating random numbers?
- What does "uniformly distributed" mean in the context of random numbers?

Example

- Convert the sample code from this slide into a working program
- (Remember to `#include <random>`)

- How does random_device differ from random number engines like mt19937?
- Why can we not assume that random_device will work as expected?
- Give one advantage and one disadvantage of using random_device instead of mt19937

- Convert the sample code from this slide into a working program
- Why is random_device not suitable for generating large quantities of numbers?
- What is the benefit of seeding an mt19937 engine with a value supplied by random_device?

Recommendations

- Why should we avoid `default_random_engine`?
- Why is it necessary to check the documentation before using `random_device`?
- Why is it good practice to make engine and distribution instances static?

- (No exercises for this slide)