

# Performance Modeling of Computer Systems and Networks

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## *Project*

I part

### **Empirical test of randomness**

Following the guidelines of Chapter 10 of the textbook<sup>1</sup>, test a Lehmer generator for randomness by selecting one of the six standard tests presented in Section 10.1. The test can be conducted in two alternative ways:

- Test a your “naive” implementation of the Lehmer generator
- Test the  $(a, m)=(48271, 2^{31}-1)$  generator

The project can be done by a group of 1 - 3 people.

A complete written relation must be produced.

The results of the test will be presented along with the final project.

The relation must include:

- an intuitive explanation of the selected test
- motivation for the test choice, with relative strengths and weakness points.

In the evaluation process, the following criteria will be considered:

- pertinence
- completeness
- conciseness
- clarity.

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<sup>1</sup> Lawrence M. Leemis, Sthephen K. Park, “Discrete-Event Simulation - A first course”