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Analysing the Validity of Random Number Generators

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Abstract

In this thesis we aim to answer weather two popular pseudo random number generators can be considered random enough for their uses. We compare sequences from the pRNGs methods LCG and MT-19937 to one supposedly true random sequence and test different aspects of randomness such as goodness of fit measured using the Chisquare and Kolmogorov-Smirnov and independence which is tested using the Discrete Fourier transform test. The results show that the LCG failed the Discrete Fourier transform test and both the MT-19937 and the true random sequence did not fail a single test. We therefore consider the MT-19937 sufficiently random considering the fore-mentioned tests.

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