MA 323 (2020) Monte Carlo Simulation: LAB 11
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Solution:

1. We generate U using Linear Congruence Generator.
   (Using Algorithm Discussed in Lecture 1.)

2. The parameters chosen were as follows:
   - m = 244944
   - a = 1597
   - b = 0
   - x0 = 1

3. Now, for each N, Volume(A) is calculated.
   The interval [0, 1] is broken down into N subintervals.
   Discrepancy is calculated using:

$$\sup_{A \in \mathcal{A}} \left| \frac{\#\{x_i \in A\}}{n} - \text{vol}(A) \right|$$

4. Tabulation of Discrepancy is as Follows:

	N	Volume	Discrepancy
0	10	0.10	0.0911
1	20	0.05	0.0408
2	50	0.02	0.0109
3	100	0.01	0.0009