

1. Experiment Content

1. Primality Test: find the best algorithm for Primality Test and program to implement it; use the algorithm to generate a random prime number in $[2^{1023}, 2^{1024}]$.
2. Computational Hard Problem: find the best algorithm for the Integer Factorization / Discrete Logarithm / Elliptic Curve Discrete Logarithm Problem (choose one of the three) and program it; test what is the maximum parameter that can be cracked with this algorithm?