## Algebra

- [X] Binary Exponention
- [X] Extended Euclidean
- [X] Linear Diophantine
- [X] Linear Sieve
- [] Miller Rabin (deterministic)
- [] Pollard Rho
- [] Euler's Totient
- [X] Modular Inverse
- [] Chinese Remainder Theorem
- [] Garner's Algorithm
- [X] Factorial modulo p
- [] Discrete Logarithm
- [] Primitive Root
- [] Discrete Root
- [] Montgomery Multiplication
- [] Balanced Ternary
- [] Gray Code
- [] Bit manipulation
- [] Enumerating bitmask subsets
- [] Arbitrary Precision
- [X] Fast Fourier Transform
- [] Continued Fractions

## **Data Structures**

- [X] Sparse Table
- [X] Disjoint Set Union
- [X] Fenwick Tree
- [X] Fenwick Tree Range Update
- [] Sqrt decomposition
- [X] Segment Tree
- [X] Treap
- [X] Merge Sort Tree
- [] Sqrt tree
- [] Randomized Heap
- [X] Trie
- [X] Aho-Corasick

## **Dynamic Programming**

- [] Divide & Conquer DP
- [] Knuth's Optimization
- [X] Longest Increasing Subsequence
- [X] Convex Hull Trick
- [X] SOS DP (Sum over Subsets)

## **String Processing**