# Set-Ups

## Code Template



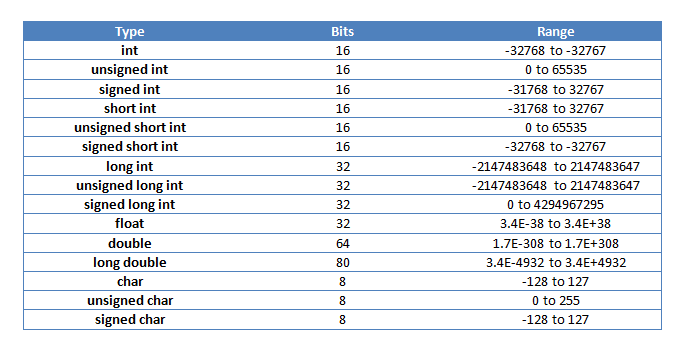
## Add Shortcuts



## Sublime Command line



## C++ Data types



## RNG



## Bits functions



## Timings



## Input / Output



## Debug Code



# Notes







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# Math

## Fast Power



## Extended Euclidean GCD



## Fibonacci Numbers



## Linear Sieve



## Phi Values



## nCk / nPk



## FFT



## NTT



# Data Structures

## DSU



## DSU With Roll-Back







## BIT/ Fenwick



## BIT/ Fenwick 2D



## Ranged BIT/Fenwick



## Segment tree Classic





## Segment tree Compressed





## Segment tree Persistent





## Trie



## Ordered Set



# Dynamic Programming

## Convex Hull trick Multiset



## Li Chao Tree





## Convex Hull trick Multiset



## Alien Trick



## Knuth's Optimization









## Convex Hull trick Multiset



# Strings

## Hashing



## KMP



# Geometry

## 3D Geometry





## 2D Geometry





## Distance Between a Point and a line segment



## Check if a point is to the left or right to a line



## Plane Equation



# Graph

## Strongly Connected Components



## Bridges and Articulation Points



## Bridges Online







## FloyedWarshall



## Bellman Ford



## Cycle in Directed Graph



## 2-SAT





## Maximum Matching



## Maximum Matching Slow



## Shortest Cycle Undirected Graph



# Trees

## LCA





## Auxiliary Tree

## Centroid Decomposition

## Sack

## Heavy Light decomposition (HLD)



# Flows

## Dinic Max Flow



## Ford Fulkerson Min Cut



# Extras

## Matrix Fast Power

## Farthest 2 Points Manhattan Distance



## Longest increasing Subsequance

## Disjoint Sparse Table

## Maximum Subset Xor



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