Level zero		Level one	
STL		Number Theory/Math	
	string		Extended Euclid
	vector		Euler Phi and inverse phi
	pair		Factorizing n!
	stack		Basic combinatorics, Probability and Game theory
	queue		
	priority_queue		
	sort	Graph	
	reverse		Maximum Flow (Ford Fulkerson)
	next_permutation		Maximum Flow (Dinic)
	set		Maximum Bipartite Matching and Variations
	map		Maximum Independent Set
	iterator		Minimum Cost Maximum Flow
			Vertex Cover
Number Theory/Math			Weighted Bipartite Matching
	Prime Generation, Sieve and How to Optimize		Graph Coloring
	Bitwise Sieve		Stable Marriage Problem
	Modular Arithmatic (+ - *)		
	Modular Inverse (/)	Greedy	
	Big Mod (a^b % p)		Task Scheduling
	Prime Factorization		Maximum Sum 1D in O(n)
	Number of Divisor		Maximum Sum 2D in O(n^3)
	Sum of Divisor		Maximum Rectangle O(n^2)
Graph		Dynamic Programming	
	Graph Representations (Adjacency Matrix)		Matrix Chain Multiplication
	Graph Representations (Adjacency List using vector)		Bitmask DP (Traveling salesman problem)
	Breadth First Search BFS		Modular DP(DP with MOD value as a state)
	Bicoloring		Tree Dp
	Depth First Search DFS		
	Topological Sorting	Data Structure	
	Articulation Point		Trie
	Bridge		Union Find
	Strongly Connected Components SCC		BST and variations
	Dijkstra and variations		Heap
	Bellman Ford and variations		Binary Indexed Tree and Applications
	Floyd Warshall and variations		Segment tree
	Kth Shortest Path		Least Common Ancestor
	Minimum Spanning Tree (Prims)		Range Minimum Query
	Minimum Spanning Tree (Kruskal)		MOs
Dynamic Programming			
	Longest Common Subsequence LCS	Total Solve Problems	500+ in UVa, Codeforces, LightOJ, Topcoder, SPOJ and USACO
	Coin change	After Complete	Participate on Codeforces, Topcoder regular contest (Div 1) it should be Div 1 ;)
	Edit Distance		
	LIS/LDS in nlogn		

Level two			Level three		
Game Theory			Number Theory/Math		
	Nim			Shanks Algorithm	
	Grundy Number and Dp Formulation			Dilworth's theorem*	
	Alpha Beta Pruning Minimax*			Burnside Lemma (http://petr-mitrichev.blogspot.com/2008/11/burnsides-lemma.html)**	
	Hackenbush*			Finding Real roots of an n degree Equation	
	Minimum Weighted Bipartite Matching/Kuhn-Munacres/Hungarian/Chinese Postman			Wilson's Theorem*	
				Lucas Theorem*	
String Algorithms					
	KMP Matcher				
	Suffix Array Construction*		Graph		
	Longest Common Substring			Minimum Spanning Tree (For Directed Graphs)	
	Aho Chorasic Algorithm			Euler Path (Construction and optimization)	
	Manacher's Algo			Gomory-Hu Tree	
				Edge Cover	
Miscellaneous				Largest Clique	
	Meet In the Middle Approach			IDA* Search Problem, 15 Puzzle	
	Konigs Theorem			Group Theory	
	Matrix Tree Theorem*			Hamiltonian Cycle	
	Joseph Problem (Using queue n^2)			Min Weight Cycles in Graph	
	Joseph Problem (Using recursion n)			Stoer Wagner (Finding the minimum cut of a graph)	
	Managing Biginteger			Planar Graph Detection	
	Permutations and Combinations			Havel-Hakimi Algorithm (Construct graph given degree of nodes)	
	Tower of Hanoi, Variations			Maximum Matching(Blossom Shrinking)	
	N Queens Problem			Max cost-max flow(min cost flow for negative cycle)	
	Hashing				
	Finding Nth Permutation		Geometry		
	Huffman Coding			Convex Hull 3D	
	Traveling Salesman Problem (Backtracking with pruning)			Line Sweeping/Angle Sweep	
	Finding Determinant of a Matrix			Fitting a Rectangle inside Another	
	Finding kth number from a sequence of unsorted numbers in log(n)			Polygon Intersection	
	Transforming Hexagonal grid, Triangular grid to 3d coordinate system			Area of a 3d Polygon	
	Matrix Multiplication			Polygon Clipping*	
	Solving Linear Recurrence with Matrix Exponentiation			Rotating Calipers*	
	Heavy-Light Decomposition			Triangulation	
Advance DP	All Light OJ Advance DP Problems			Optimal BST	
				KD tree	
Geometry				Link-cut tree	
	Convex Hull			Interval Tree	
				Quad tree	
	Point inside Convex Polygon (log(n))				
	Picks Theorem, Number of Lattice Points inside a polygon				
	Binary Search				
	Ternary Search				
	Segment Segment Intersection		Extra	Segment Trees, with lazy propagation	
	Area Of A Concave Polygon			Heavy Light Decomposition	
	Point Inside A Polygon (Convex and Concave)			Splay Tree	

	Minimum Circle Covering all Points			FFT	
	Union of rectangle (How to cluster, how to make it in nlogn, bently)			Treap	
	Closest Pair			Tree Decomposition	
				Persistent Segment Tree	
				Palindromic Tree	
				DP Optimizations	