	مبحث	زير مبحث
1		
2	1_Number theory	Euclidian and extended Euclidian algorithm
3		Modular arithmetic and modular inverse
4		Prime generation (sieve and segmented sieve)
5		Fermat's theorem
6		Euler's Totient function
7		Miller Rabin primality test
8		Chinese remainder theorem
9		Lucas theorem
10	2_Greedy algorithms Important	Activity-selection problem
11		Kruskal's algorithm
12		Prim's algorithm
13	3_Binary search Important	Topcoder binary search
14		Binary search
15		Ubiquitous binary search — get a grasp of discrete and continuous binary searche
16	4_Data structures Important	Linked lists
17		Binary-search tree
18		Binary-indexed tree or Fenwick tree
19		Segment Tree (RMQ, range sum, andlazy propagation)
20		Red-Black trees
21		Hashing
22		Extensive list of data structures
23	5_Graph algorithms Important	Breadth-first search (BFS)
24		Depth-first search (DFS)
25		Shortest path from source to all vertices (Dijkstra)

#	Section	Topic
26		Shortest path from every vertex to every other vertex (Floyd Warshall)
27		Minimum spanning tree (Prim)
28		Minimum spanning tree (Kruskal)
29		Topological Sort
30		Johnson's algorithm
31		Articulation points (or cut vertices) in a graph
32		Bridges in a graph
33		All graph algorithms
34	**6_String algorithms** Learning library functions for string actually proves very helpful. (C++: See this, this, String in Java.) **Important**	KMP algorithm
35		Rabin karp
36		Z's algorithm
37		Aho-Corasick string matching
38		Suffix arrays
39		Trie
40		Finite automata
41	**7_Dynamic programming Very Very Very Important**	Dynamic programming — GeeksforGeeks
42		Dynamic Programming — Codechef
43		Longest-common subsequence
44		Longest-increasing subsequence
45		Edit distance
46		Minimum partition
47		Ways to cover a distance
48		Longest path in matrix
49		Subset-sum problem
50		Optimal strategy for a game
51		0–1 knapsack problem
52		Assembly-line scheduling

53		All DP algorithms
54	8_Computational geometry	Convex-hull algorithms
55		Geometric algorithms
56	مباحثی که این تو نیست*	Pattern Searching | Set 8 (Suffix Tree Introduction)
57		cercular flow
58		dyadic (XOR) convolution
59		fast Walsh-Hadamard transform
60		"sum over subsets" or "multidimensional prefix sum"
61		2-vertex-connected components
62		