

1	An AVL tree is balanced, therefore a median of all elements in the tree is always at the root or one of its two children. A) True                      B) False	
2	The expected amount of space used by a skip list on elements is $O(n)$ A) True                      B) False	
3	Suppose we have computed a minimum spanning tree of graph and its weight. If we make a new graph by doubling the weight of every edge in the original graph, we still need $\Omega(E)$ time to compute the cost of the new MST of the new Graph. A) True                      B) False	
4	Using Fibonacci heaps for _____ improves the asymptotic running time of important algorithms. A) Priority Queues B) Stacks C) Link Lists D) Binary Search Trees	
5	Suppose that we have numbers between 1 and 1000 in a binary search tree, and we want to search for the number 363. Which of the following sequences could not be the sequences of nodes examined. A. 2, 252, 401, 398, 330, 344, 397, 363 B. 924, 220, 911, 244, 898, 258, 362, 363 C. 925, 202, 911, 240, 912, 245, 363 D. 2, 399, 387, 219, 266, 382, 381, 278, 363	
6	Let P be a shortest path from some vertex s to some other vertex t in a graph. If the weight of each edge in the graph is increased by one, P will still be a shortest path from s to t. A) True                      B) False	
7	The sequence 20, 15, 18, 7, 9, 5, 12, 3, 6, 2 is a max-heap. A) True                      B) False	
8	Show an valid Binomial Heap with the following nodes 3, 5, 7, 10, 12, 15.	
9	What order should we insert the elements {1,2,3,4,5,6,7} into an empty AVL tree so that we don't have to perform any rotations on it?	