Miscellaneous

(a) Binary trees consist of nodes that have up to two children.

(b) If an algorithm uses $\mathcal{O}(n)$ number of steps, we say it has linear runtime complexity.

(c) Runtime complexity of Mergesort is $\mathcal{O}(n \cdot \log(n))$.

(d) It is impossible to check if an array is sorted in $\mathcal{O}(n)$.

(e) Binary search on arrays is significantly faster than binary search on linked lists.

(f) Runtime complexity says something about how many steps an algorithm uses relative to the size of the input.

(g) If one algorithm has better runtime complexity than another algorithm, then it will always use fewer steps regardless of the size of the input.

(h) Huffman coding is used to compress data.

(i) The root node of a tree is the only node that does not have a parent.

(j) A graph with n nodes cannot have more than n edges.