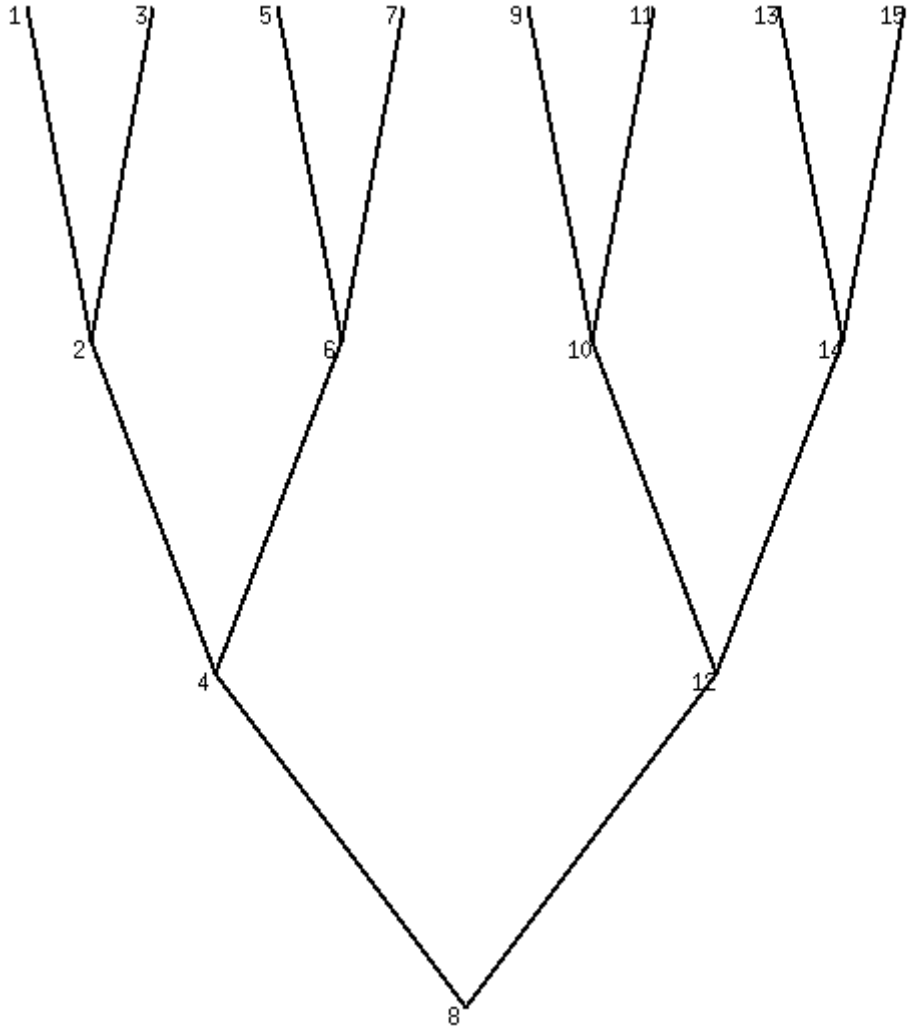
1. Consider a complete binary tree of height (levels) *h*. Such a tree has $2^{h+1} - 1$ vertices (nodes). E.g. a tree with level 1 has $2^2 - 1 = 3$ vertices, a tree of height 2 has $2^3 - 1 = 7$ vertices. Our goal is to not only draw the tree, but number the vertices in a certain order. The order we want is called *inorder*- where we number the left subtree first, then the root, then the right subtree. In such a tree, the leftmost vertex will have number 1, the rightmost $2^{h+1} - 1$, and the root of the whole tree would be 2^h. The inorder numbering of some trees is shown below. Modify our tree drawing program (of simplecpp graphics) such that the inorder number of the vertex is printed next to the vertex. Take the height *h* of the tree as input.

Tree of level h=3:



Tree of level h=5: