

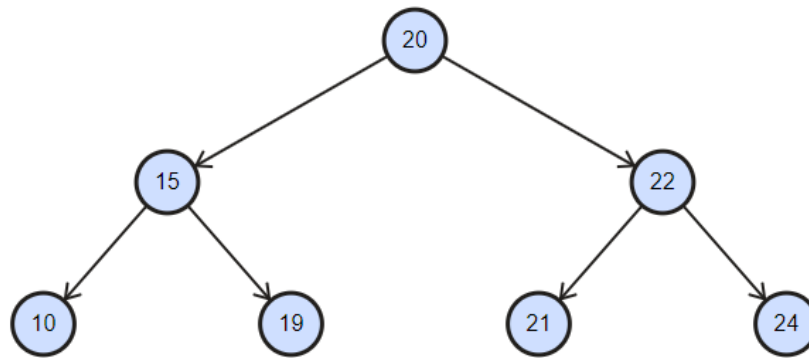
### Exercise 3

6 min

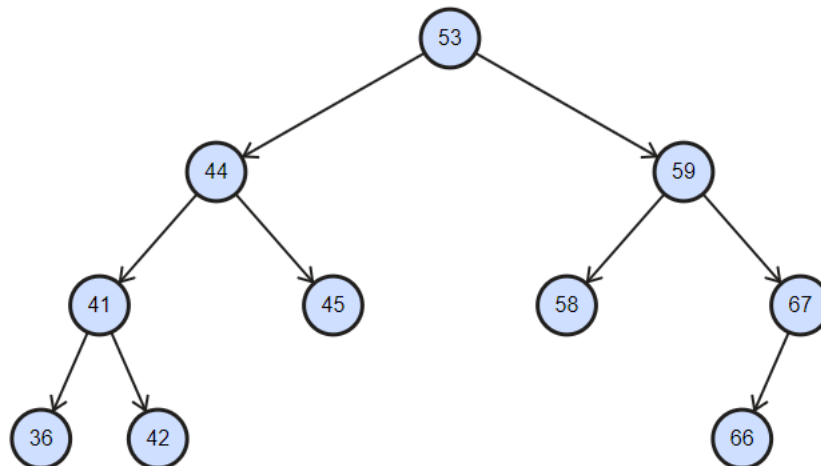
1p a) Tell me your opinion on the following topics in as few words as possible:

- What are **binary trees** used for?
- Describe an application for which you would use a **hash table** to represent the data.

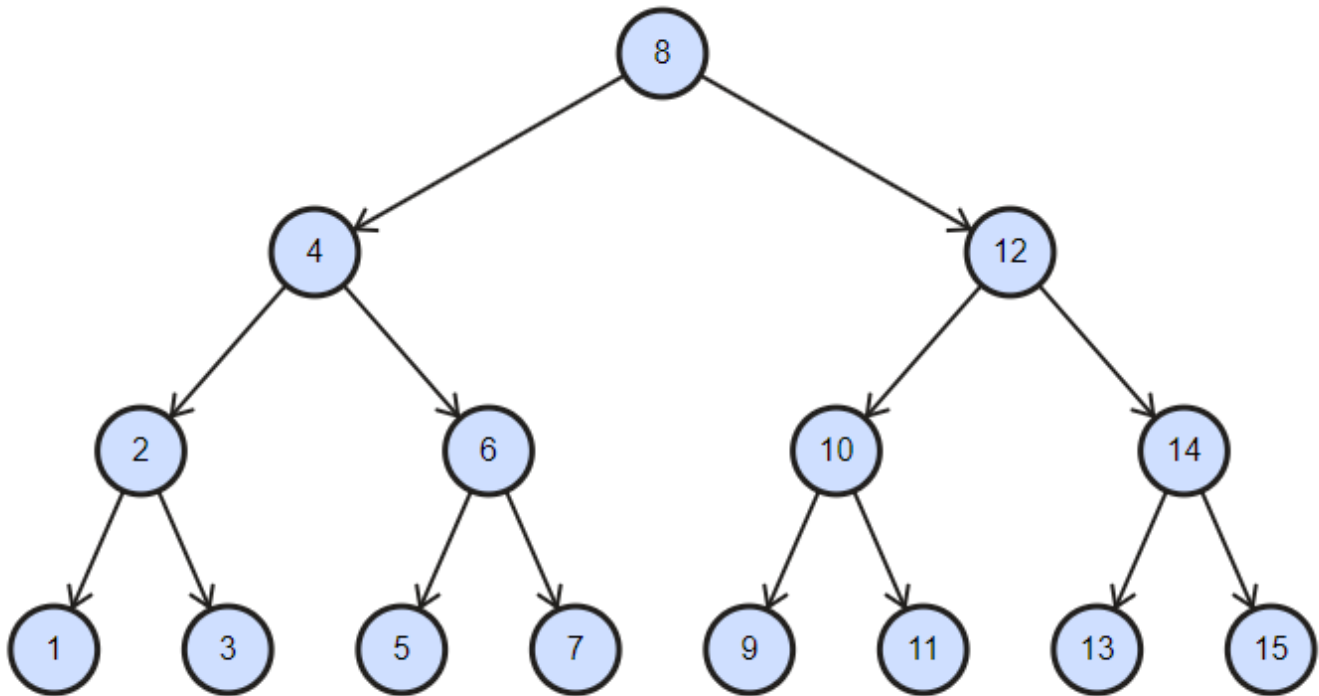
1p b) Write down the **preorder** traversal of this Binary Search Tree:



1p c) Write down the **postorder** traversal of this Binary Search Tree:



1p d) Write the **inorder** traversal for this Binary Search Tree and compute the sum of its elements:



2p e) Draw a sketch with a **hash table** that is implemented using **chaining** and has the elements 6, 3, 4, 7 and 8. The hash function is  $H(k) = k \% 3$ .