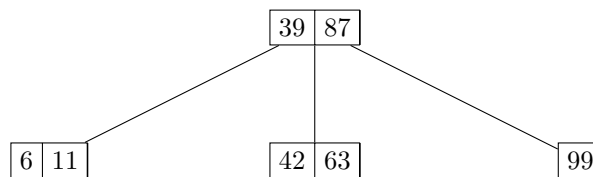


Tutorial 12: 2-4 trees, red-black trees, BWT

1. Consider the Burrows-Wheeler Transform.
 - a) Encode the following string using BWT: TORONTO
 - b) Decode the following string using the inverse BWT: IPSSM\$PISSII

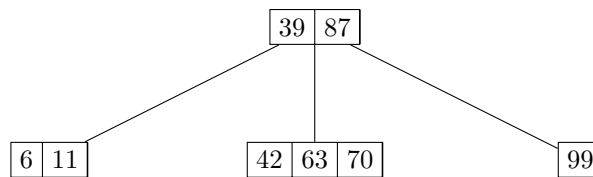
2. For the following B-tree of order 4, i.e., (2, 4)-Tree, perform the following operations:
 - a) Insert 30, Insert 75, Insert 24, Insert 56
 - b) Delete 56, Delete 24, Delete 75, Delete 30

When deciding between successor/predecessor, choose the successor. When deciding between left or right sibling for transfer/merge, select the right sibling.



3. This problem involves converting between 2-4 trees and red black trees.

- a) Convert the following 2-4 tree to a red-black tree.



- b) Convert the following red-black tree to a 2-4 tree:

