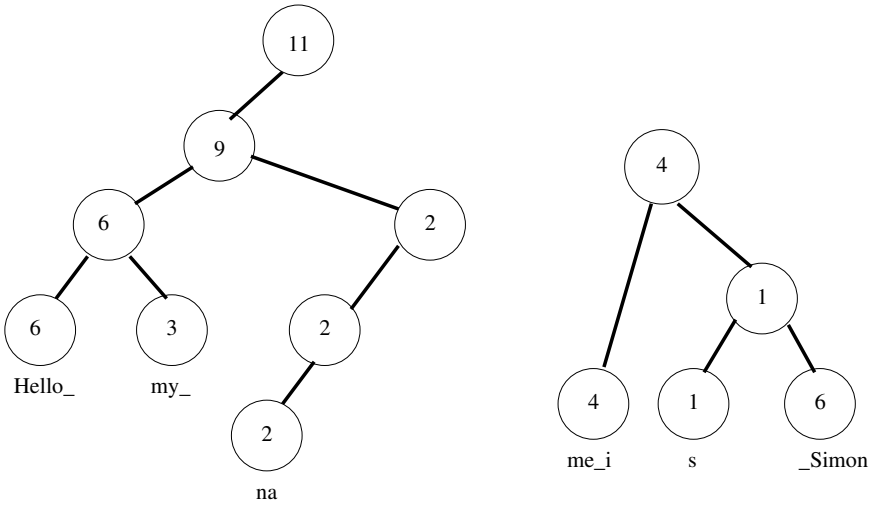
CSCI-1200 Data Structures — Spring 2019
Lecture 18 – iClicker split() Solutions

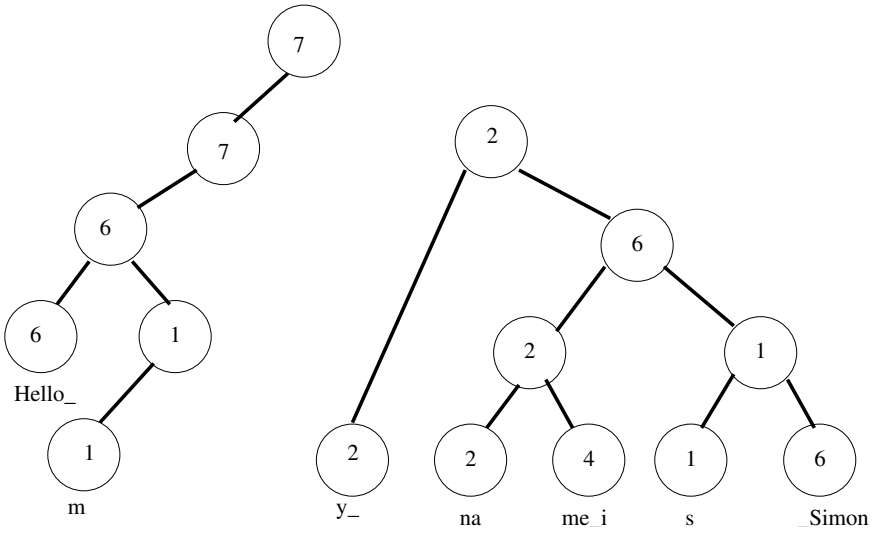
lhs.split(11,rhs)

This was our first example. index 11 is at the start of a node, so nothing special needs to be done. Total node count: 8



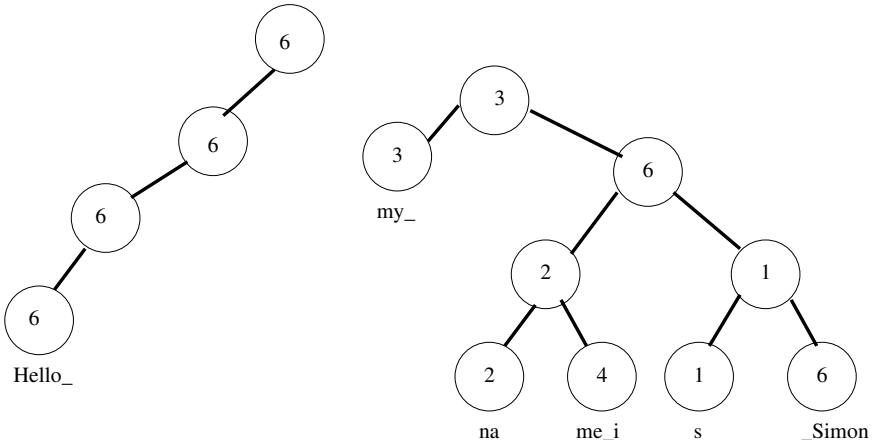
lhs.split(7,rhs)

index 7 is in the middle of a node, so we first have to split "my_" into "m" and "y_" (with the old "my_" node becoming the parent of the two new leaves). Total node count: 6



lhs.split(6,rhs)

index 6 is at the start of a node, so nothing special needs to be done. Total node count: 4



lhs.split(1,rhs)

index 1 is in the middle of a node, so we first have to split "Hello_" into "H" and "ello_". Total node count: 5

On the right hand side, we have severed three nodes, "ello_", "my_", and the weight 6 node at the top of the subtree that contains "na|me_i|s|_Simon". So we join these going left to right. (Previously the figure was incorrectly joining from right-to-left which created the wrong hierarchy based on our algorithm).