CSC148: 20161109

BINARY SEARCH TREES

~ SORTED BINARY TREE

- EVERY NODE HAS TWO CHILDREN OR LESS, WITH CHILDREN THEMSELVES BEING BINARY TREES

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CONDITIONS:

1. EACH NODE HAS AT MOST TWO SUBTREES

2. EACH ITEM IS ≥ ALL ITEMS IN LEFT SUBTREE, ≤ ALL ITEMS IN RIGHT SUBTREE.

   THIS IS TRUE FOR ALL ITEMS, NOT JUST THE ROOT.

IF SELF.ROOT == EMPTY():

→ RETURN FALSE

ELSE:

→

(1) IF SELF.ROOT == ITEM:

→ RETURN TRUE

(2) ELIF SELF.ROOT < ITEM:

→ RETURN SELF.RIGHT.__CONTAINS__(ITEM)

(3) ELSE:

→ RETURN SELF.LEFT.__CONTAINS__(ITEM)