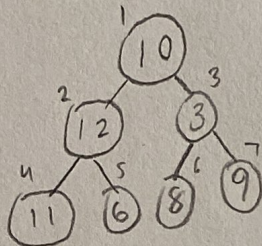
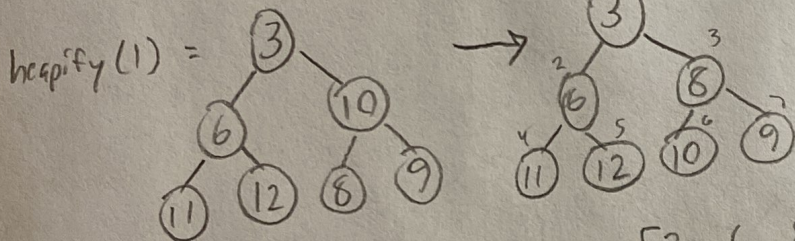
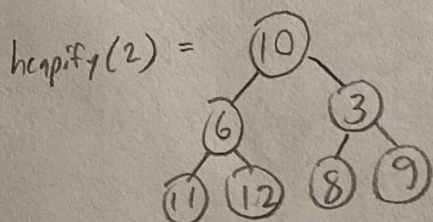
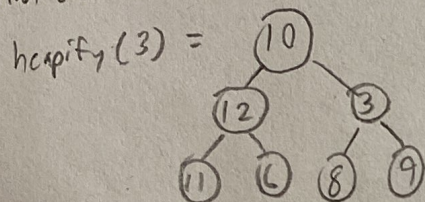


Part 4

a) initial state: $[10, 12, 3, 11, 6, 8, 9]$



start with first non-leaf node



final array: $[3, 6, 8, 11, 12, 10, 9]$

