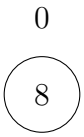
Data Structure and Algorithm Analysis(H)
Southern University of Science and Technology
Mengxuan Wu
12212006

Work Sheet 10

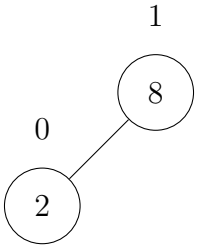
Mengxuan Wu

Question 10.1

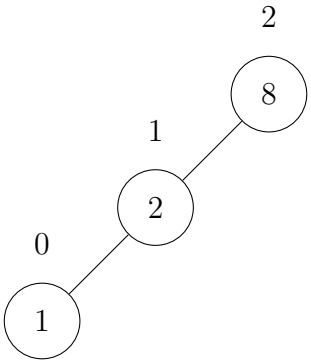
Step 1

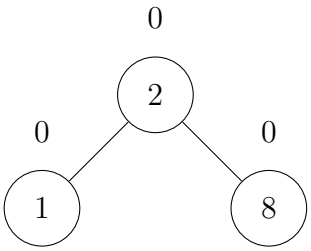


Step 2

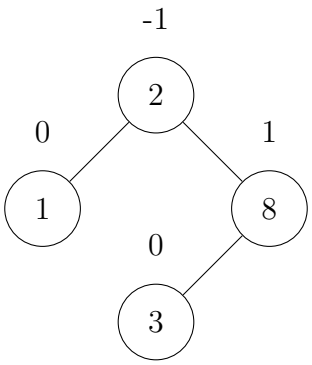


Step 3

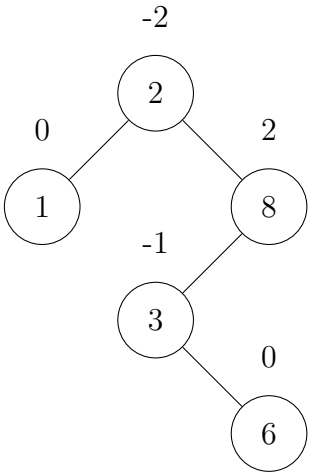


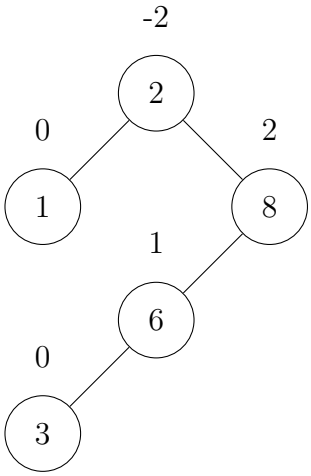


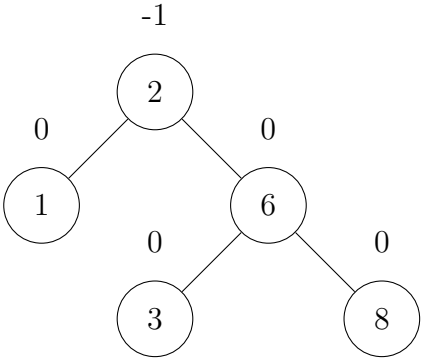
Step 4



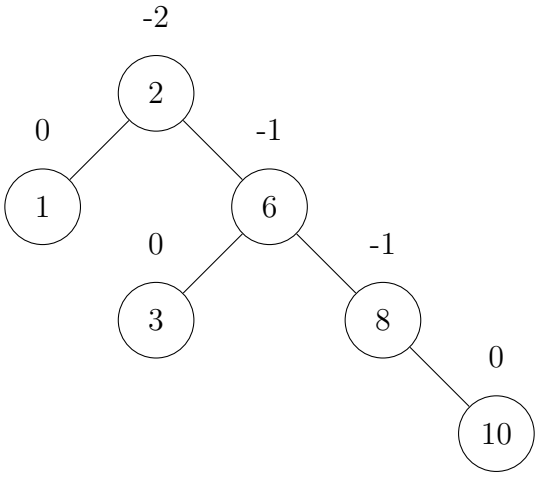
Step 5

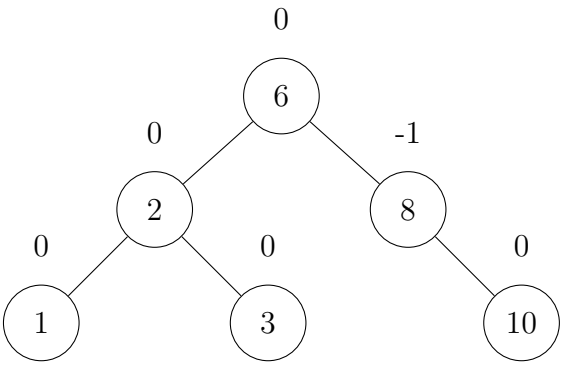




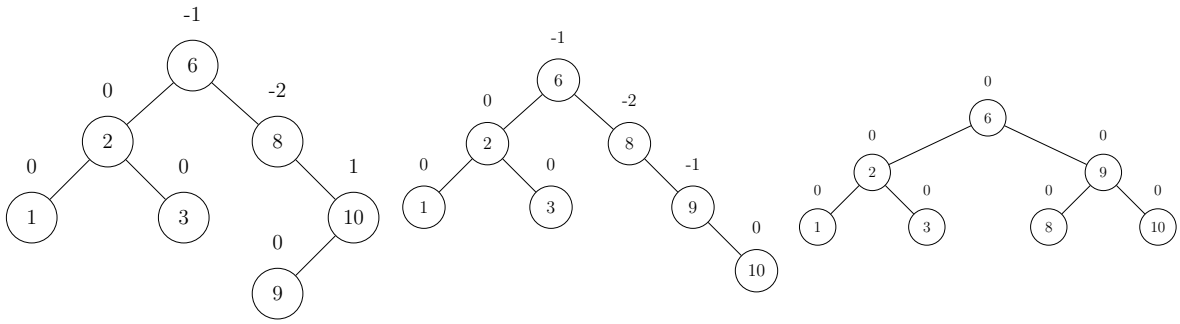


Step 6





Step 7



Question 10.2

n	0	1	2	3	4	5	6	7	8	9	10	11	12
$Fib(n)$	1	1	2	3	5	8	13	21	34	55	89	144	233

Therefore, the minimum number of nodes that an AVL tree with height 10 can have is $Fib(12) - 1 = 232$.