

## Lab 7

3. For each integer  $n = 1, 2, 3, \dots, 7$ , determine whether there exists a red-black tree having exactly  $n$  nodes, with *all of them black*. Fill out the chart below to tabulate the results:

Num nodes $n$	Does there exist a red-black tree with $n$ nodes, all of which are black?
1	Yes
2	No
3	Yes
4	No
5	No
6	No
7	Yes

4. For each integer  $n = 1, 2, 3, \dots, 7$ , determine whether there exists a red-black tree having exactly  $n$  nodes and exactly one red node. Fill out the chart below to tabulate the results:

Num nodes $n$	Does there exist a red-black tree with $n$ nodes that has exactly one red node?
1	No
2	Yes
3	No
4	Yes
5	Yes
6	No
7	No