Name: **Tatyana Vlaskin** Question#: 1

```
                          50
                    ┌──────┴──────┐
                   20            100
               ┌────┴────┐    ┌────┴────┐
              10        30    □        130
            ┌──┴──┐   ┌──┴──┐      ┌──┴──┐ ┌──┴──┐
           □     □   21    □  □     □   □     □
```

50

20   100

10   30   □   130

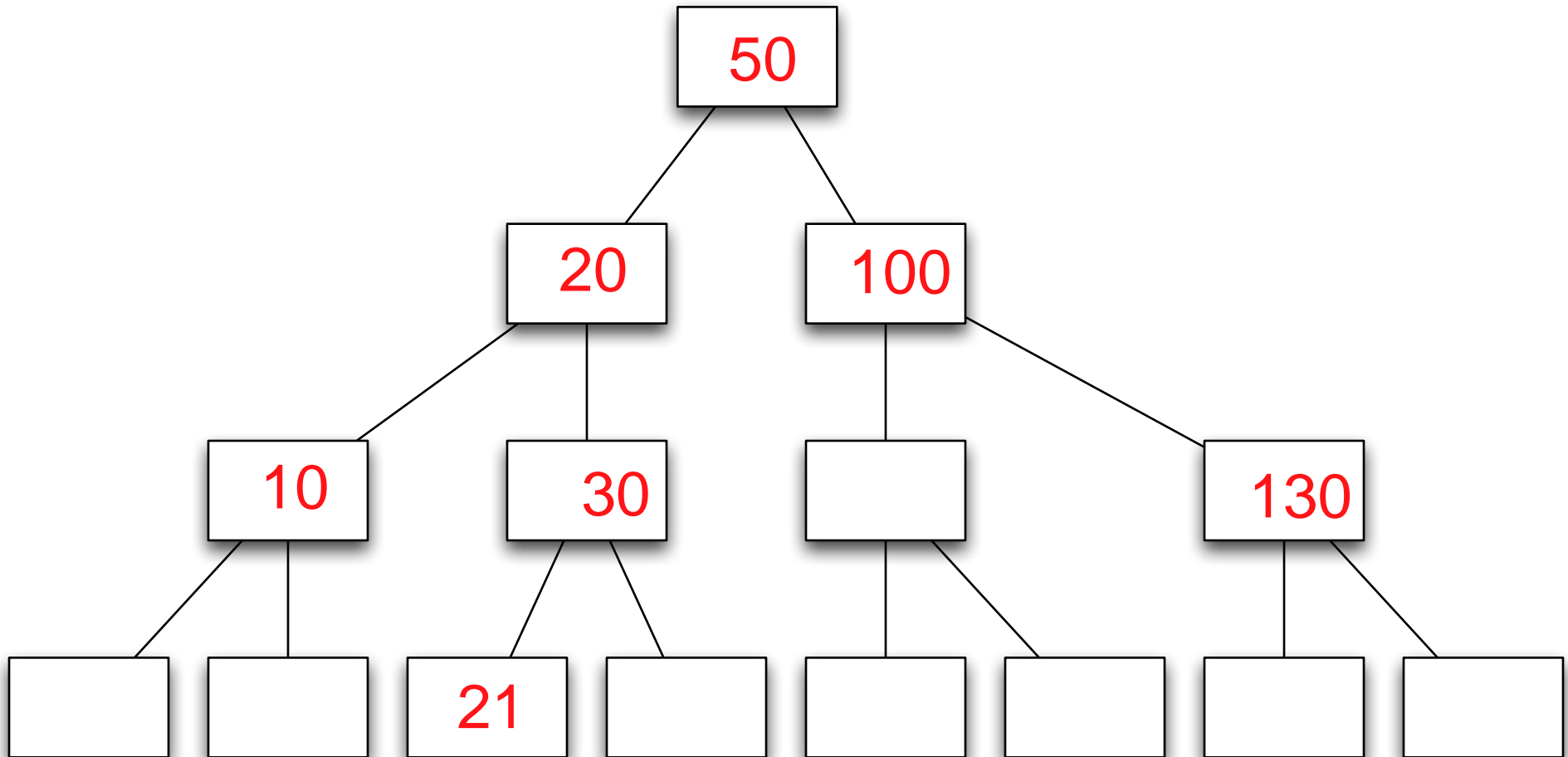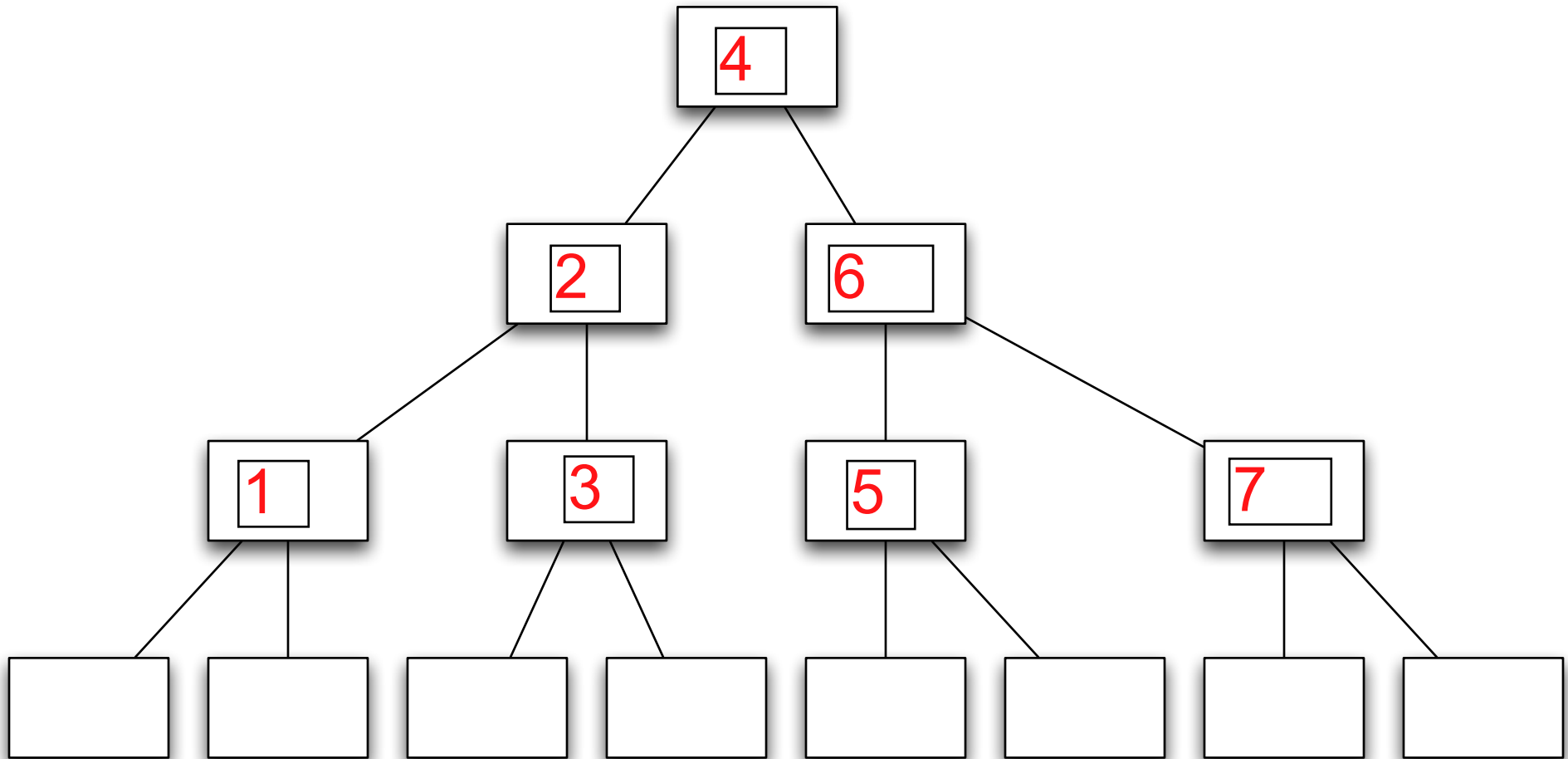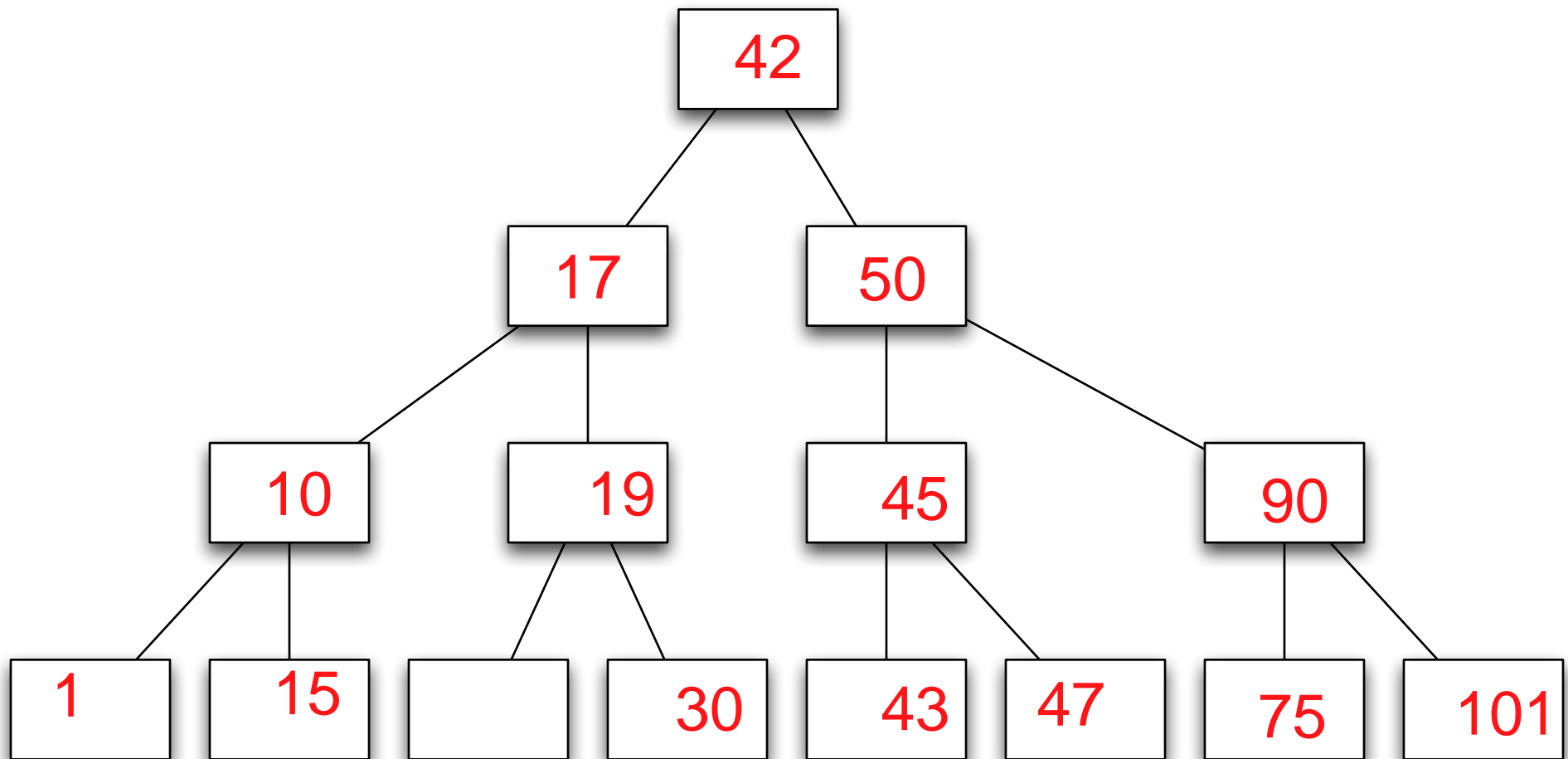□   □   21   □   □   □   □   □

Name: Tatyana Vlaskin Question#: 2

One possible order of inserting elements 1-7 in the binary tree to generate full binary tree is: 4, 2,6,3,1,5,7

Name: Tatyana Vlaskin   Question#: 3A
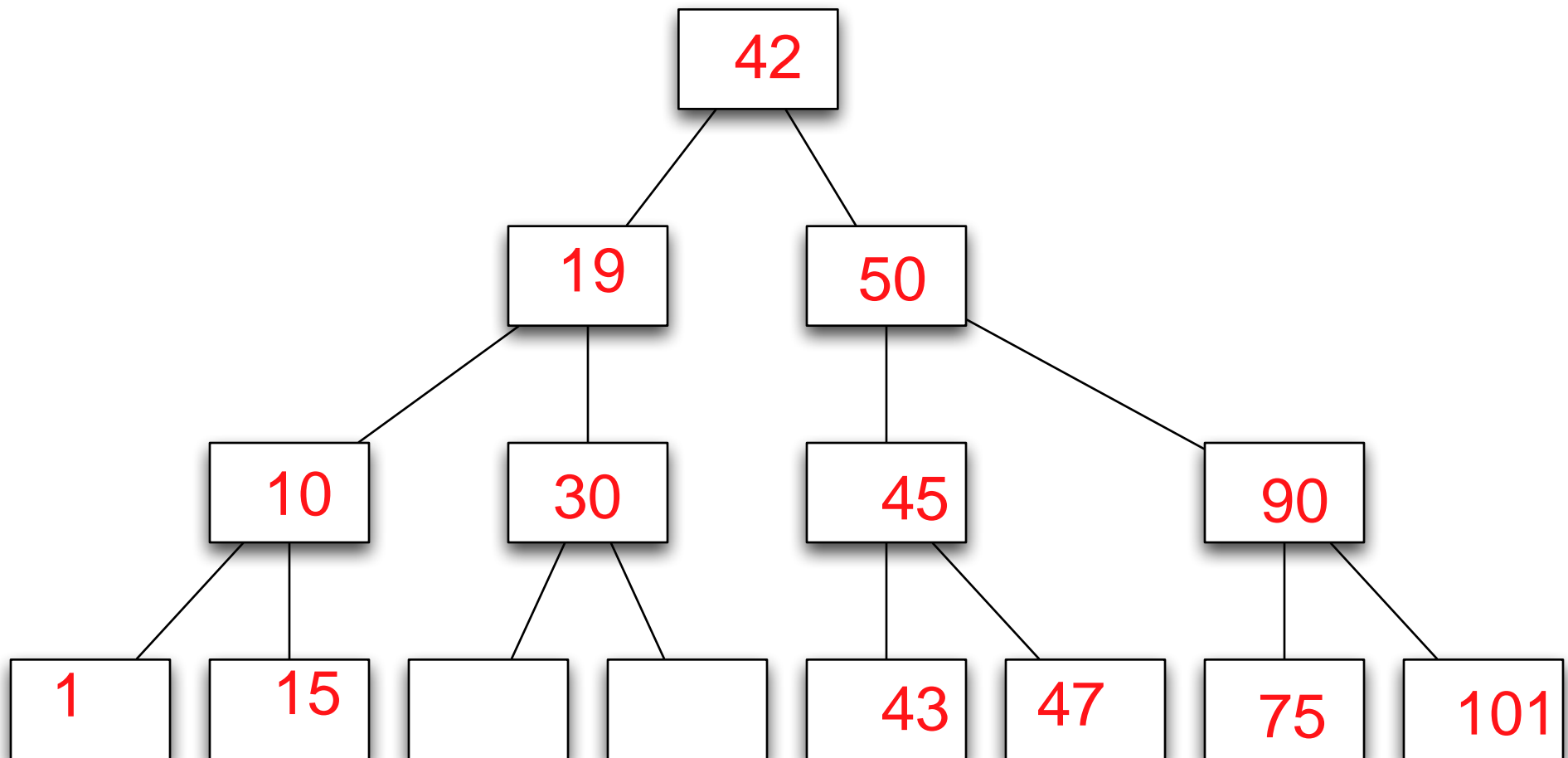

When an element is removed from the tree, the gap is filled with the leftmost child of the right subtreetree (smallest element in the right subtree), if such exist. So when 16 is removed, 17 takes its place

When an element is removed from the tree, the gap is filled with the leftmost child of the right subtreetree (smallest element in the right subtree), if such exist. If this case there is no left child in the right subtree, so the element is replaced by the right subtree itself. So when 17 is removed, 19 takes its place.

Does it live in the water?

Yes — Is it a mammal?

No — Does it climb trees?

Is it a mammal?
Yes — whale
No — sea turtle

Does it climb trees?
Yes — cat
No — Does it eat space marines?

Does it eat space marines?
Yes — Zergling
No — dog