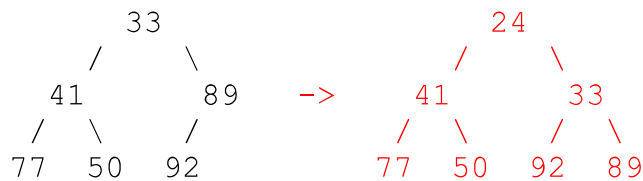


## 2) (10 pts) ALG (Minheaps)

a) Show the result of inserting the value 24 into the following minheap.

**Grading (4 pts for part a):**

4/4 if correct

2/4 if not correct, but they satisfy at least one of the following: (1) 24 ends up at the root, (2) the structure of the tree is the same as above (despite where the values ended up).

0/4 otherwise

b) Show the result of deleting the root of the following minheap.

**Grading (4 pts for part b):**

4/4 if correct

2/4 if not correct, but they satisfy at least one of the following: (1) 41 ends up at the root, (2) the structure of the tree is the same as above (despite where the values ended up).

0/4 otherwise

c) Using big-oh notation, what is the **worst-case** runtime for deleting the minimum element from a minheap that has  $n$  nodes?

**Solution:**  $O(\log n)$

**Grading:** 2 pts, all or nothing.