

Problem-Set 7, Theoretical Part

Task 1:

Insert the following keys into an initially empty red-black tree [Cormen, Chapter 13]:

20, 13, 10, 7, 9, 1

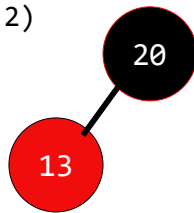
Show the state of the tree after each insertion (your answer must contain 6 trees)

Solution:

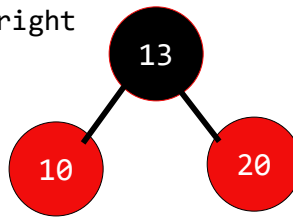
1)



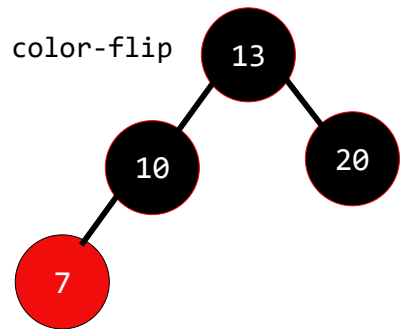
2)



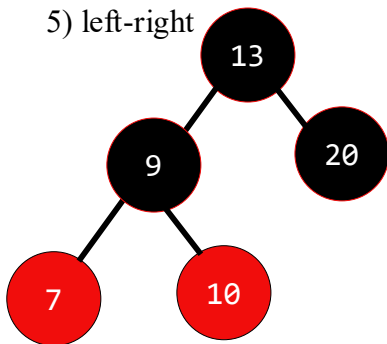
3) right



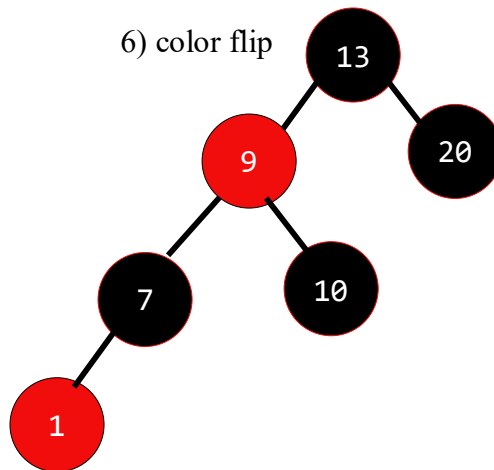
4) color-flip



5) left-right



6) color flip



### Task 2:

Insert the following keys into an initially empty AVL tree [Goodrich, Section 11.3]:

20, 13, 10, 7, 9, 1

Show the state of the tree after each insertion (your answer must contain 6 trees).

Solution:

