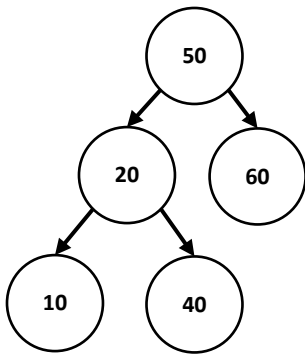
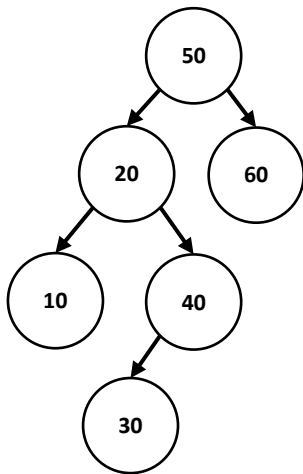


Balanced BSTs, Question 1: The figure below shows the current state of an AVL tree:

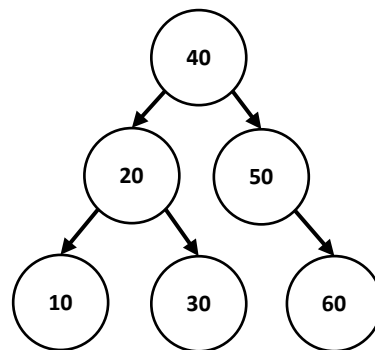


If the next value added to the tree is 30, which of the four choices below represents the new state of the tree after the new node is added and all necessary rotations are performed?

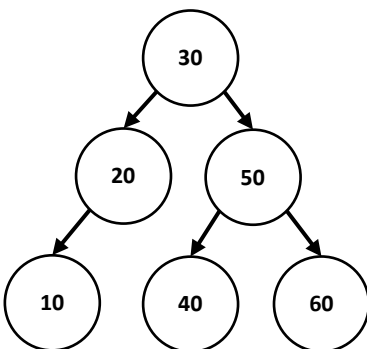
Choice 1



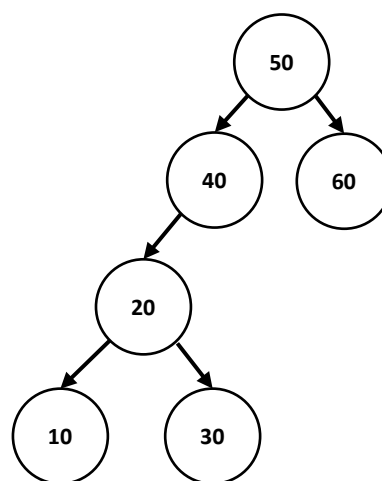
Choice 2



Choice 3



Choice 4



Balanced BSTs, Question 2: The figure below shows a red-black tree with only two of the node colors listed—both 30 and 70 are in red nodes. You should be able to determine the colors of the other nodes, which are shown in blue in the figure. Write the correct node color (red or black) for each node in the blank spots in the question.

