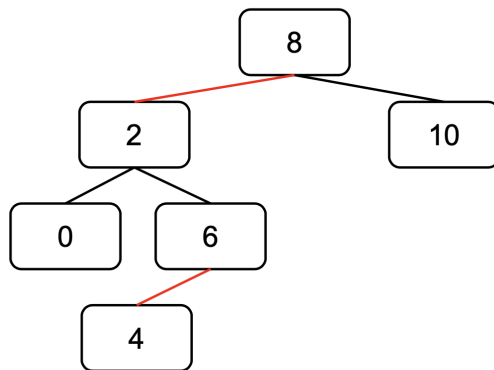


LLRB Maximization

[Here is a video walkthrough of the solutions.](#)

For this problem, we are working with the LLRB below. Determine an integer x such that the insertion of x into the LLRB requires exactly 6 fixups. A fixup can either be a rotate right, a rotate left, or a color flip. The solution must include the integer x and an enumeration of the fixups in the proper order.



Solution:

We insert integer 5 into the configuration below and perform the following steps:

1. Rotate 4 left
2. Rotate 6 right
3. Colorflip 5
4. Rotate 2 left
5. Rotate 8 right
6. Colorflip 5