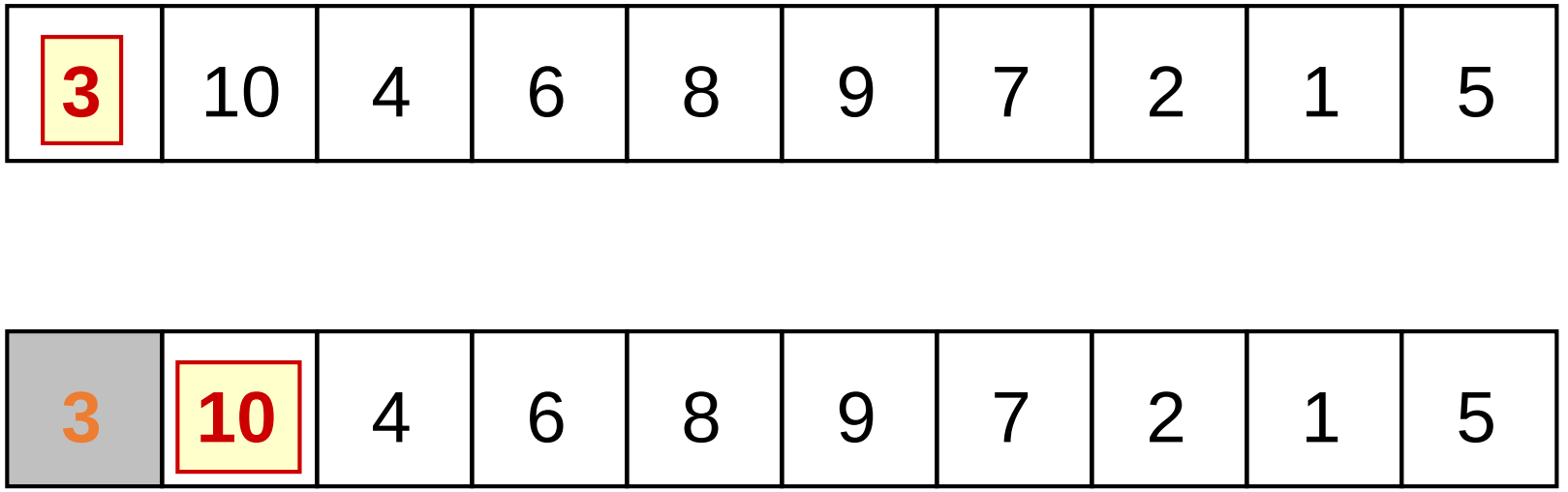
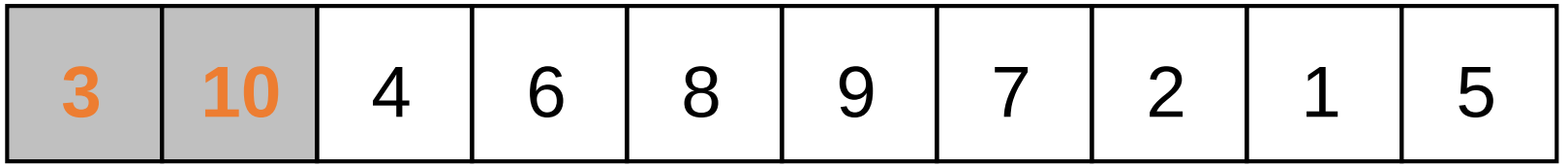
Insertion Sort

3	10	4	6	8	9	7	2	1	5

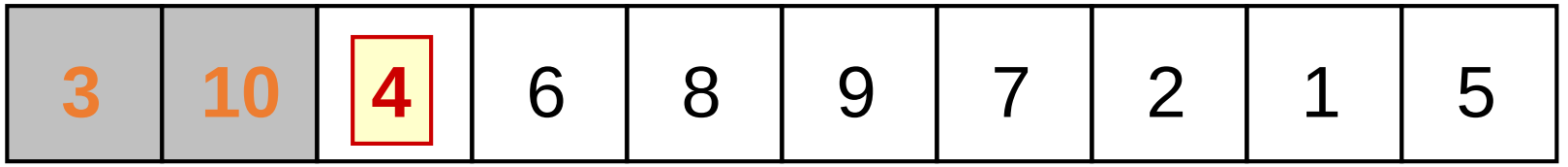
The leftmost value (3) can be said to be sorted in relation to itself. Thus, we don’t need to do anything.



Check to see if the second value (10) is smaller than the first one (3). If it is so, we swap these two values. But this time we don’t need to swap.

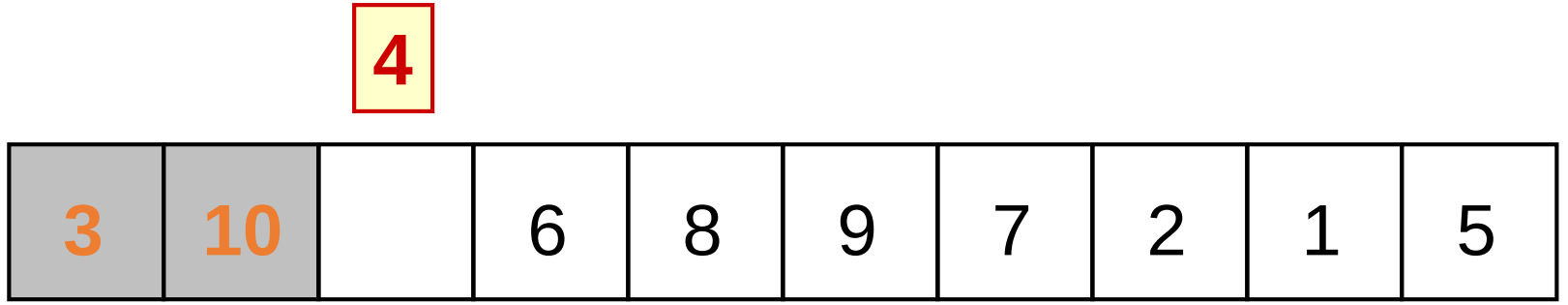


The blue/gray portion (the first two values) are now relatively sorted.

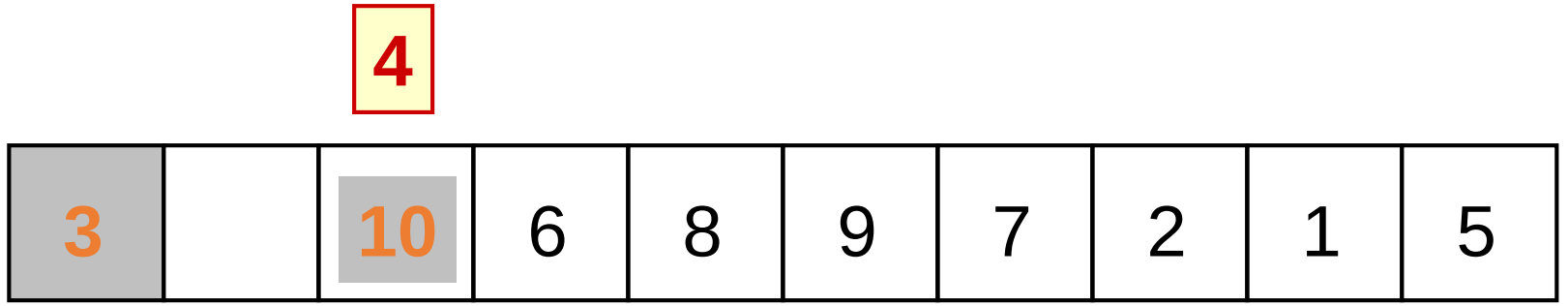


Next, we need to insert the third value (4) into the blue/gray portion so that after insertion, the blue/gray portion will still be relatively sorted.

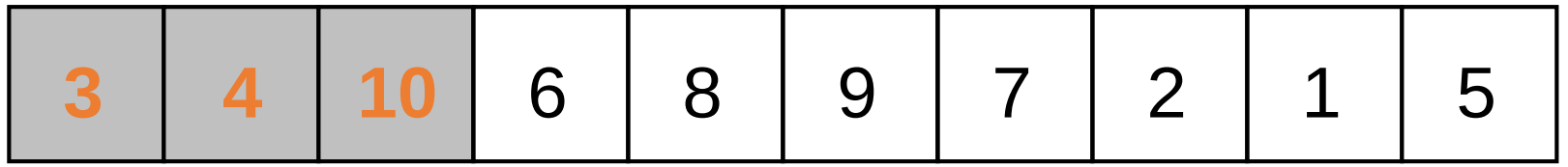
Remove the third value first.



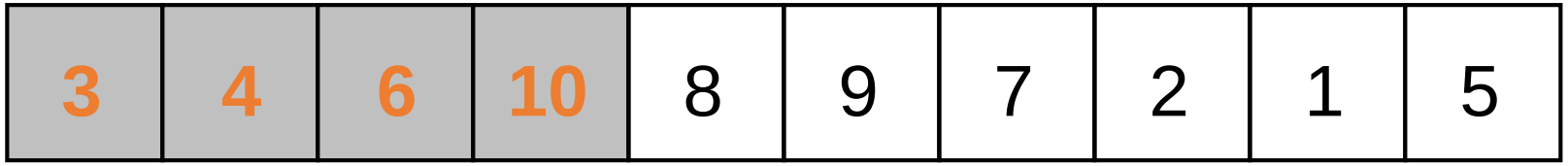
Slide the second value (10) over to make room for insertion.



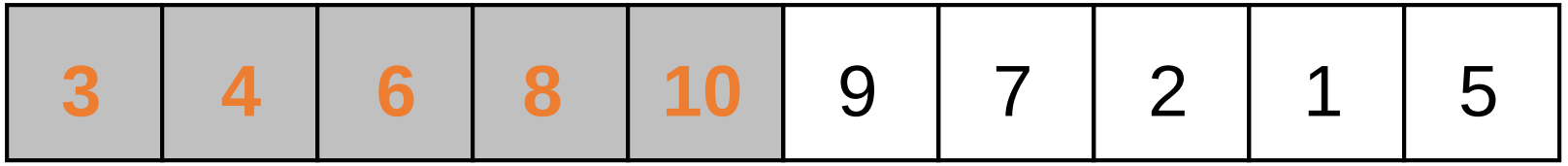
Insert the value 4 into the appropriate position

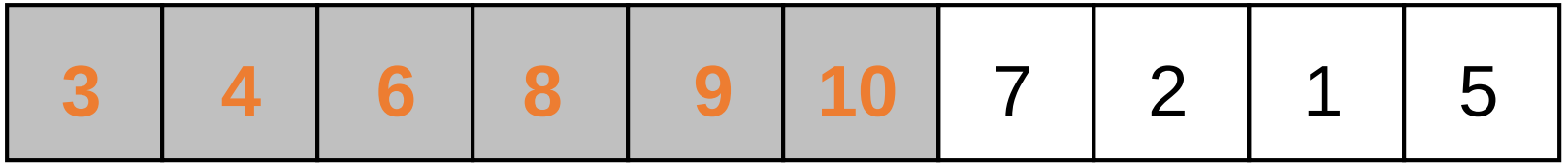


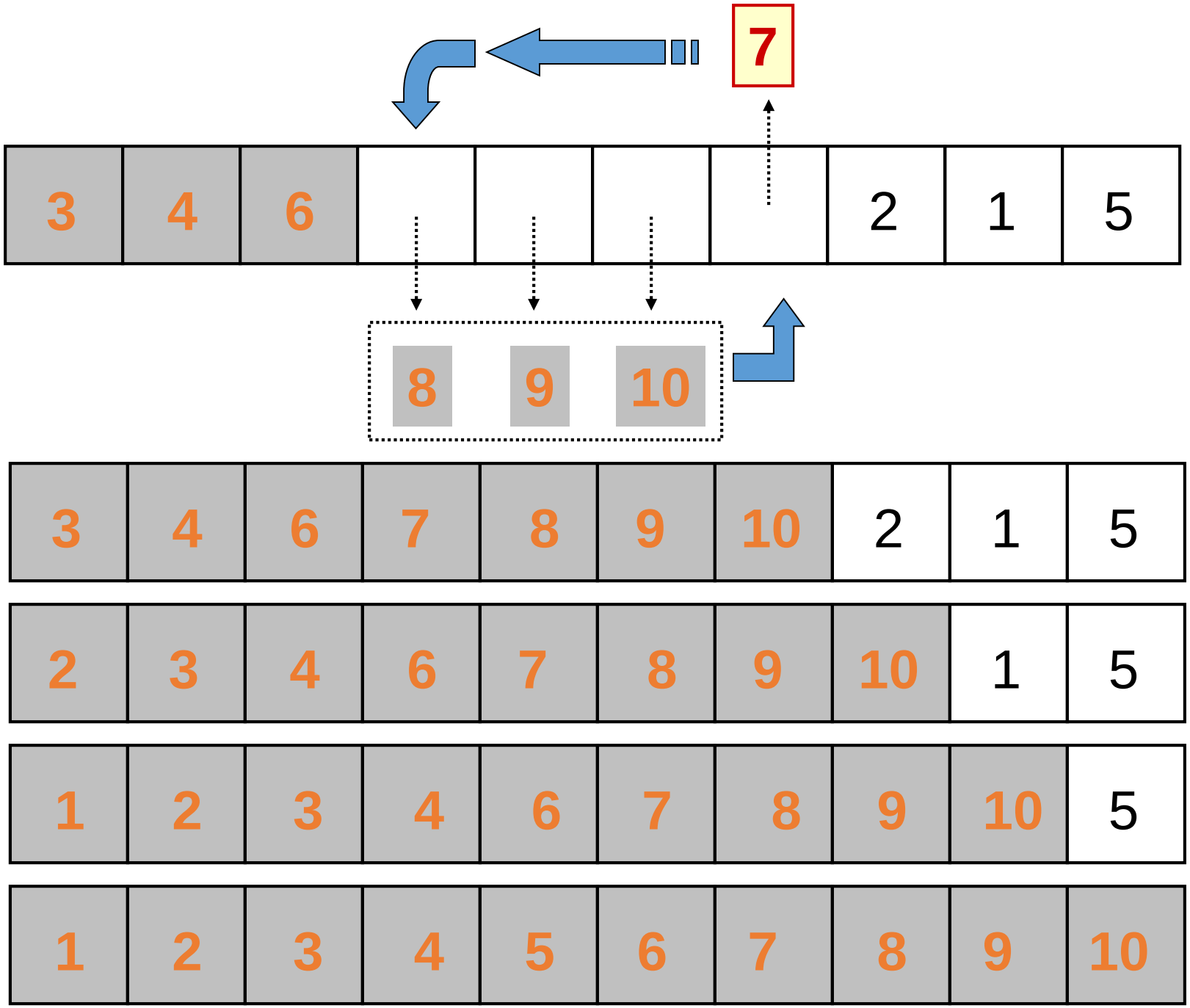
Now the first three values are relatively sorted and we insert the fourth value into these three values. The first four values should be relatively sorted after insertion.



Repeat the process until the last value is inserted.






7
3 4 6 2 1 5
8 9 10
3 4 6 7 8 9 10 2 1 5
2 3 4 6 7 8 9 10 1 5
1 2 3 4 6 7 8 9 10 5
1 2 3 4 5 6 7 8 9 10