Consider the $B^+$-tree $T$ illustrated below. Let its B-tree—which is comprised of the internal nodes—have order four. Suppose that the leaves are large enough to hold up to four records. In order to ensure that space utilization is no worse than about 50%, we allow a minimum of two records in a leaf. (Note that each record contains two fields, the first being the ordering field (an integer) and the second being a character string.)

For each operation in the list (a) through (i), show the $B^+$-tree that results from performing that operation on $T$. Assume, in carrying out the operations, that redistribution is used whenever possible. That is, split an overflowing node only if all its adjacent siblings are full. Similarly, concatenate two nodes only if all adjacent siblings of the underflowing node are on the verge of underflowing. (Note: Redistribution is never to extend beyond two adjacent siblings!)