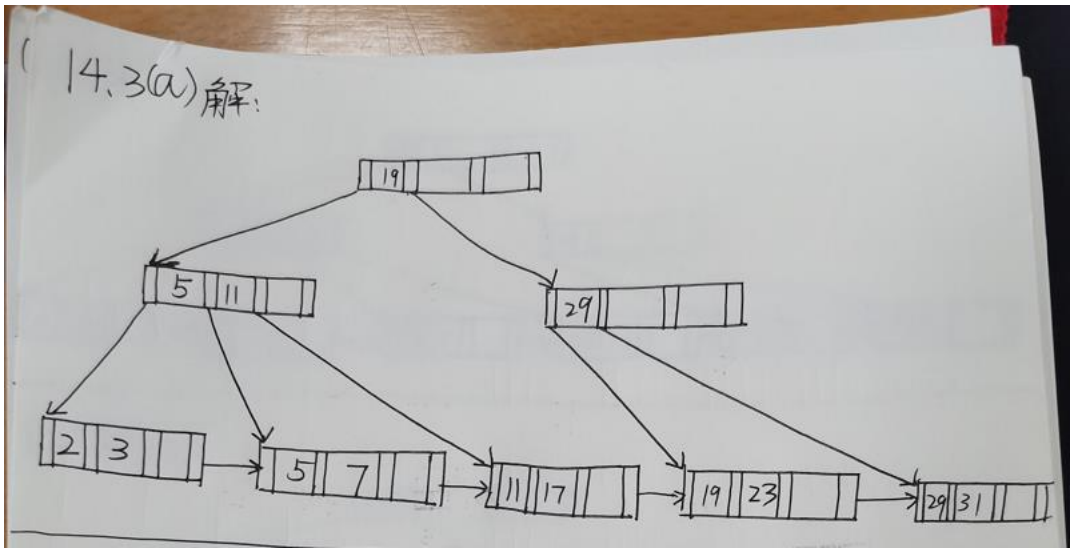
14.3 Construct a B^+-tree for the following set of key values:

(2, 3, 5, 7, 11, 17, 19, 23, 29, 31)

Assume that the tree is initially empty and values are added in ascending order. Construct B^+-trees for the cases where the number of pointers that will fit in one node is as follows:

a. Four

解：



14.4 For each B^+-tree of Exercise 14.3, show the form of the tree after each of the following series of operations:

a. Insert 9.

b. Insert 10.

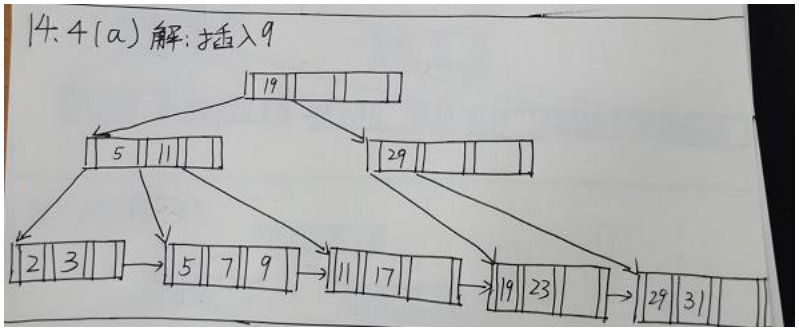
c. Insert 8.

d. Delete 23.

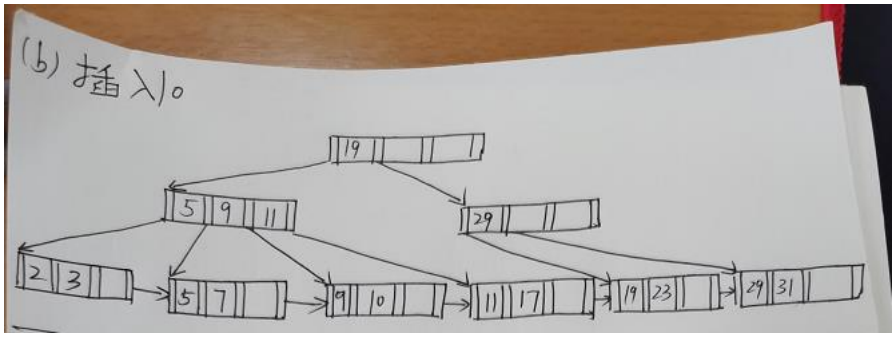
e. Delete 19.

解：（见下页）

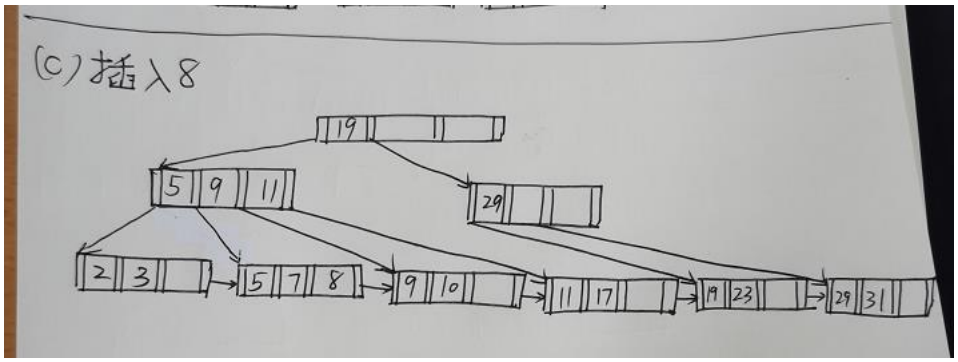
14.4(a) 解：插入9



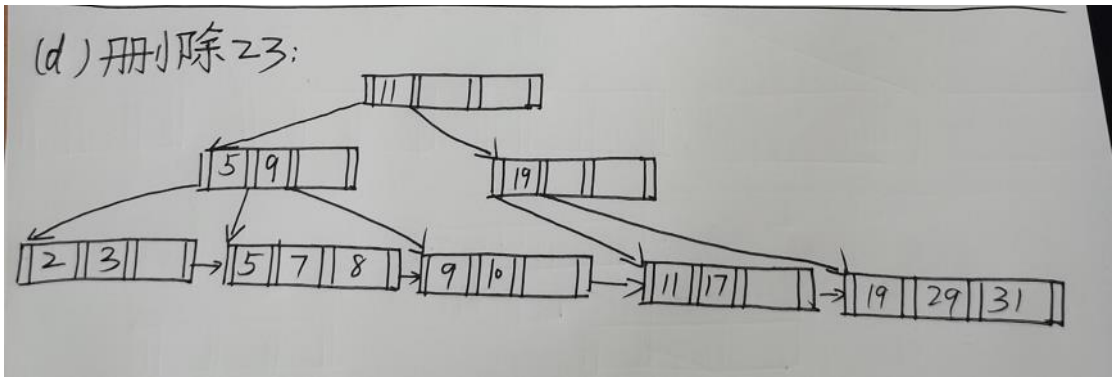
(b) 插入10



(c) 插入8



(d) 删除23：



(e) 删除19