$\text{B-Tree-Insert-Nonfull}(x, k)$

```
 1   i = x.n
 2   if x.leaf                                    // inserting into a leaf?
 3       while i ≥ 1 and k < x.key_i             // shift keys in x to make room for k
 4           x.key_{i+1} = x.key_i
 5           i = i − 1
 6       x.key_{i+1} = k                          // insert key k in x
 7       x.n = x.n + 1                            // now x has 1 more key
 8       DISK-WRITE(x)
 9   else while i ≥ 1 and k < x.key_i            // find the child where k belongs
10           i = i − 1
11       i = i + 1
12       DISK-READ(x.c_i)
13       if x.c_i.n == 2t − 1                     // split the child if it's full
14           B-TREE-SPLIT-CHILD(x, i)
15           if k > x.key_i                       // does k go into x.c_i or x.c_{i+1}?
16               i = i + 1
17       B-TREE-INSERT-NONFULL(x.c_i, k)
```