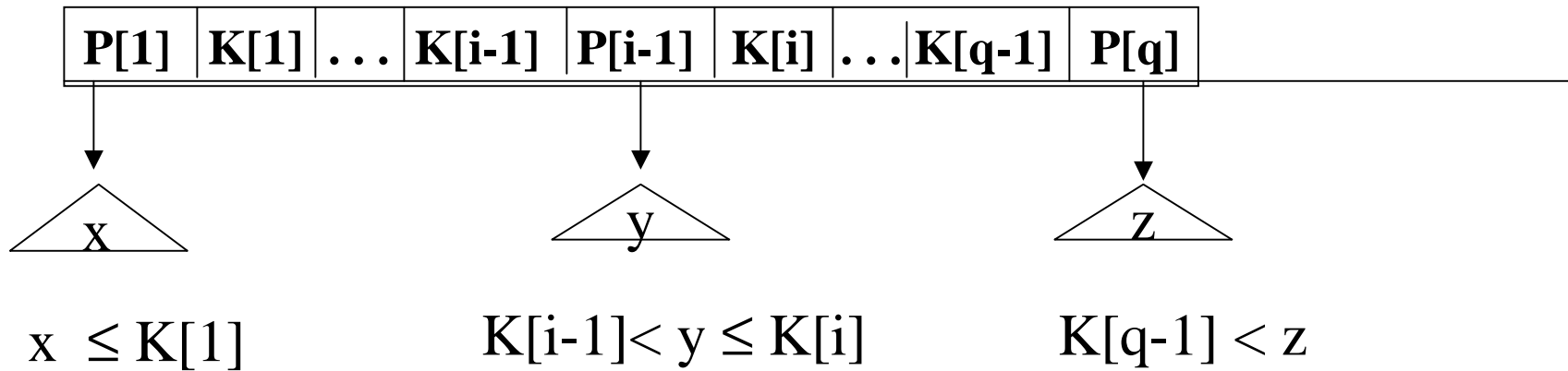
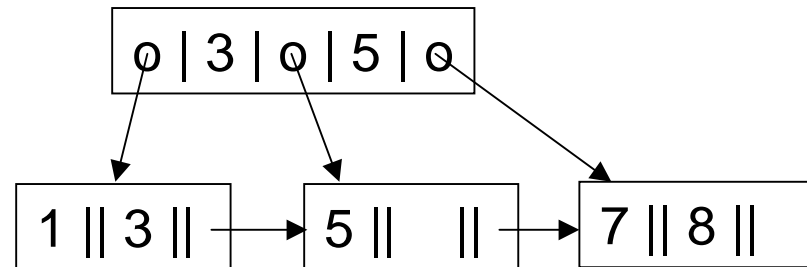


B-Tree Nonleaf Node



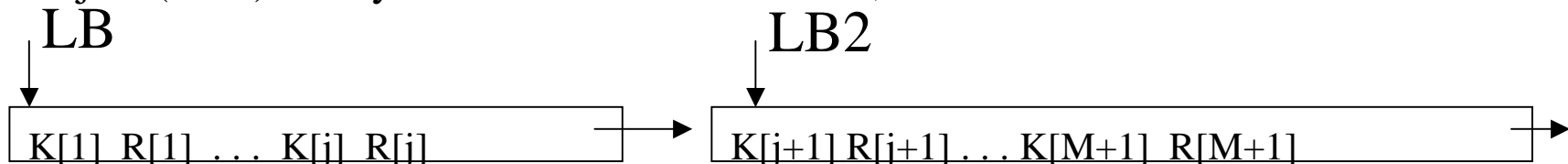
- The Ks are keys
- The Ps are pointers to subtrees.



Inserting a New Key in a B-Tree of Order M

Insert(ElementType K, Btree B)

```
{
  find the leaf node LB of B in which K belongs;
  if notfull(LB) insert K into LB;
  else
    {
      split LB into two nodes LB and LB2 with
       $j = \lceil (M+1)/2 \rceil$  keys in LB and the rest in LB2;
```



```
    if ( IsNull(Parent(LB)) )
      CreateNewRoot(LB, K[j], LB2);
    else
      InsertInternal(Parent(LB), K[j], LB2);
  }
}
```