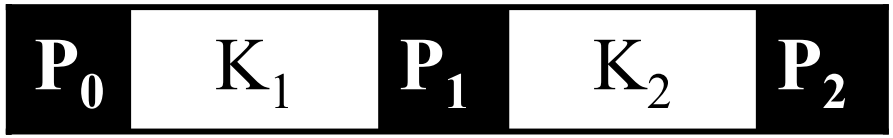
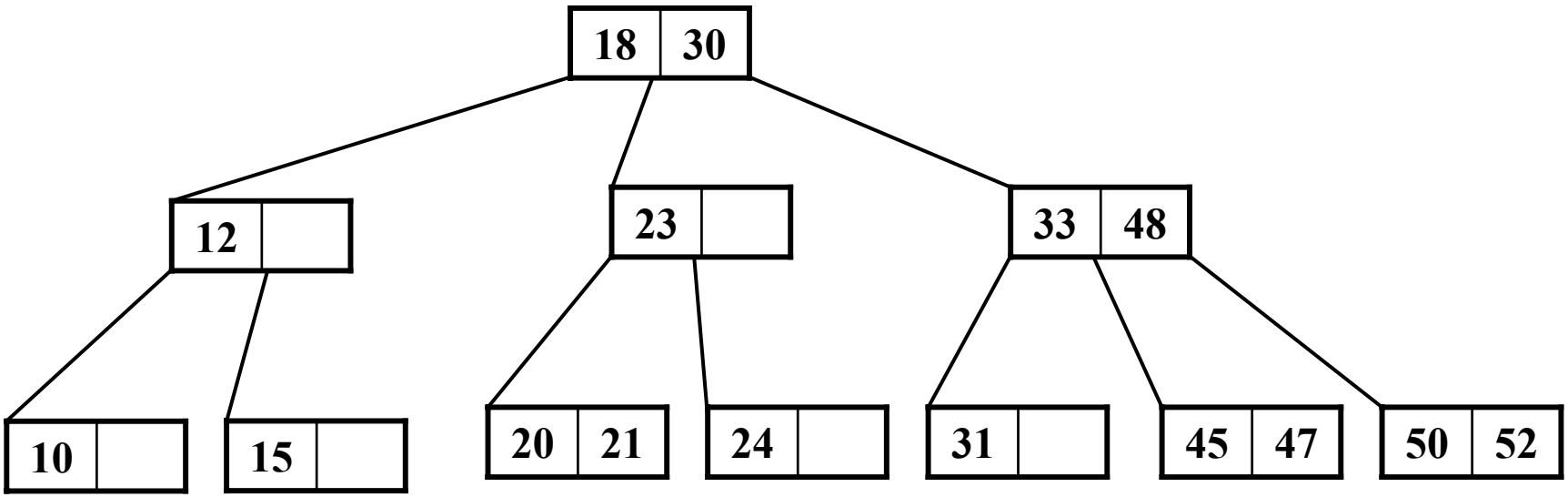
Indexing Trees

2-3 tree e B tree

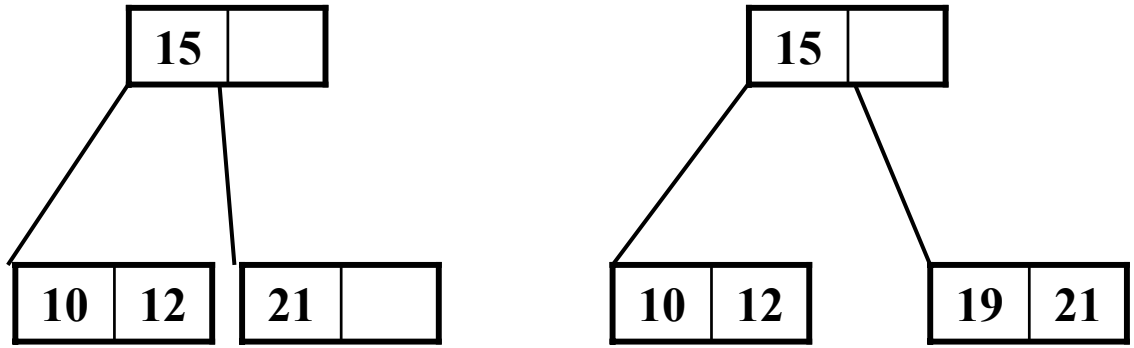
- 2-3 tree
  - Numero di figli f: 2 <= f <= 3
  - Se nodo pieno split dei nodi (ricorsivo)
- B tree
  - Numero di figli massimo di un nodo: **m**
  - Numero di figli f: m/2 <= f <= m
    (Convenzione: m/2 in genere viene arrotondato per eccesso)
    - Ma la radice o è una foglia o puo' averne anche solo 2
  - Numero di chiavi k = f-1
    - quindi m/2-1 <= k <= m-1
    - Se nodo pieno split dei nodi (ricorsivo)
- In entrambi i casi non vediamo la cancellazione (troppo complicata)

Esempio 2-3 tree



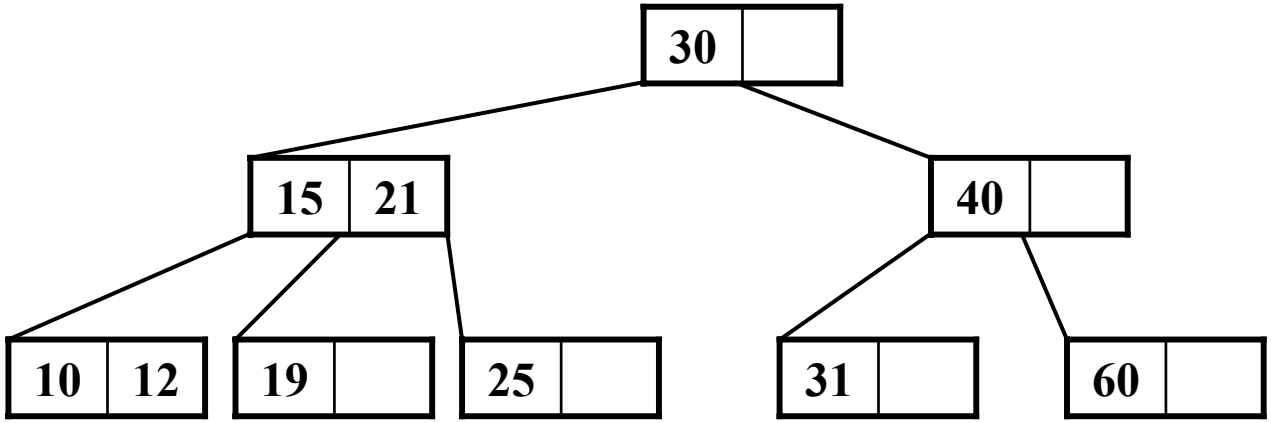


2-3 tree: inserimento senza splitting

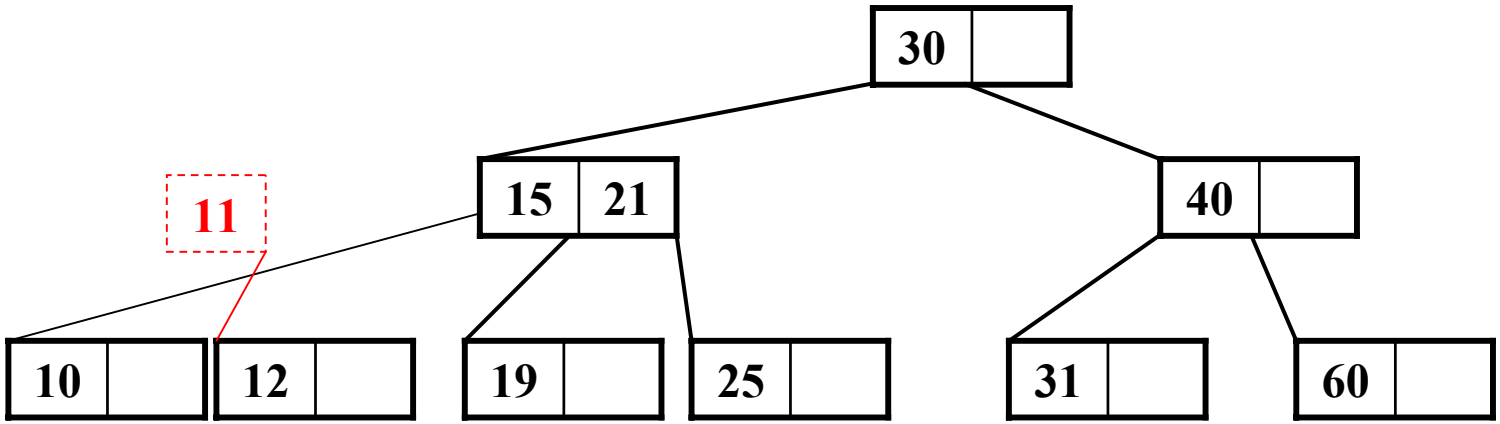


Inserisco 19

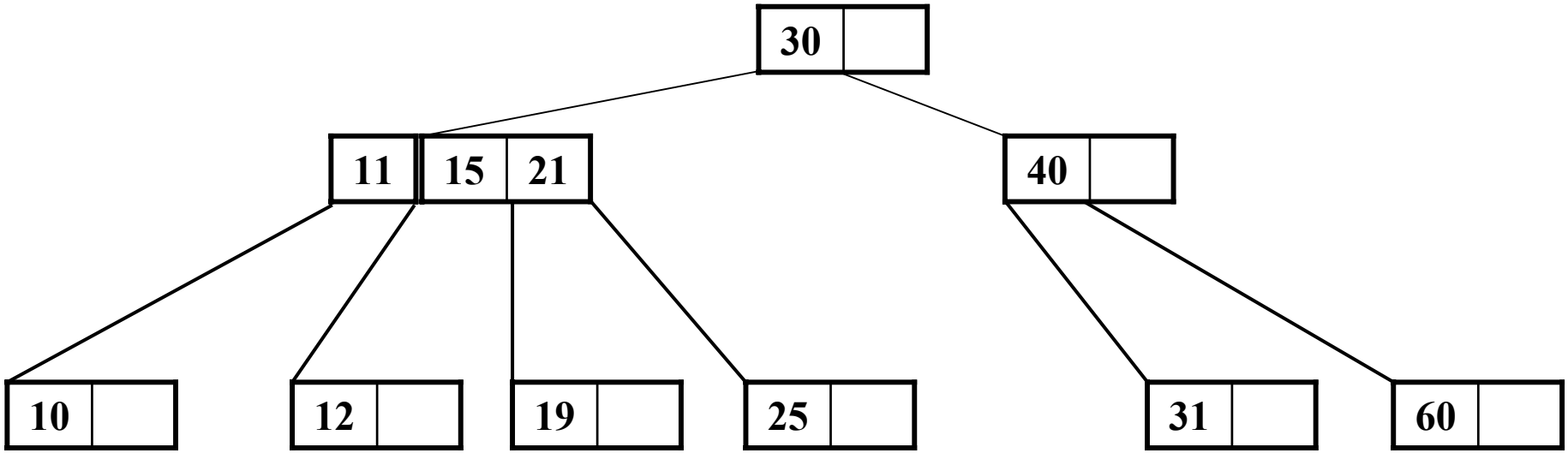
2-3 tree: splitting a catena (1)

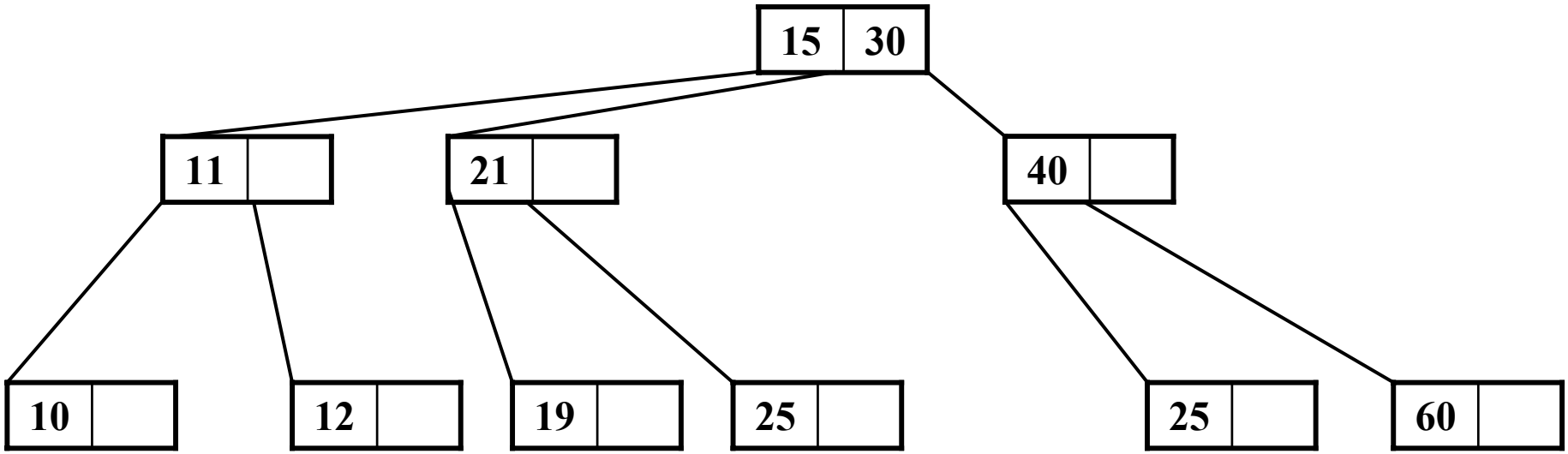


Inserisco 11

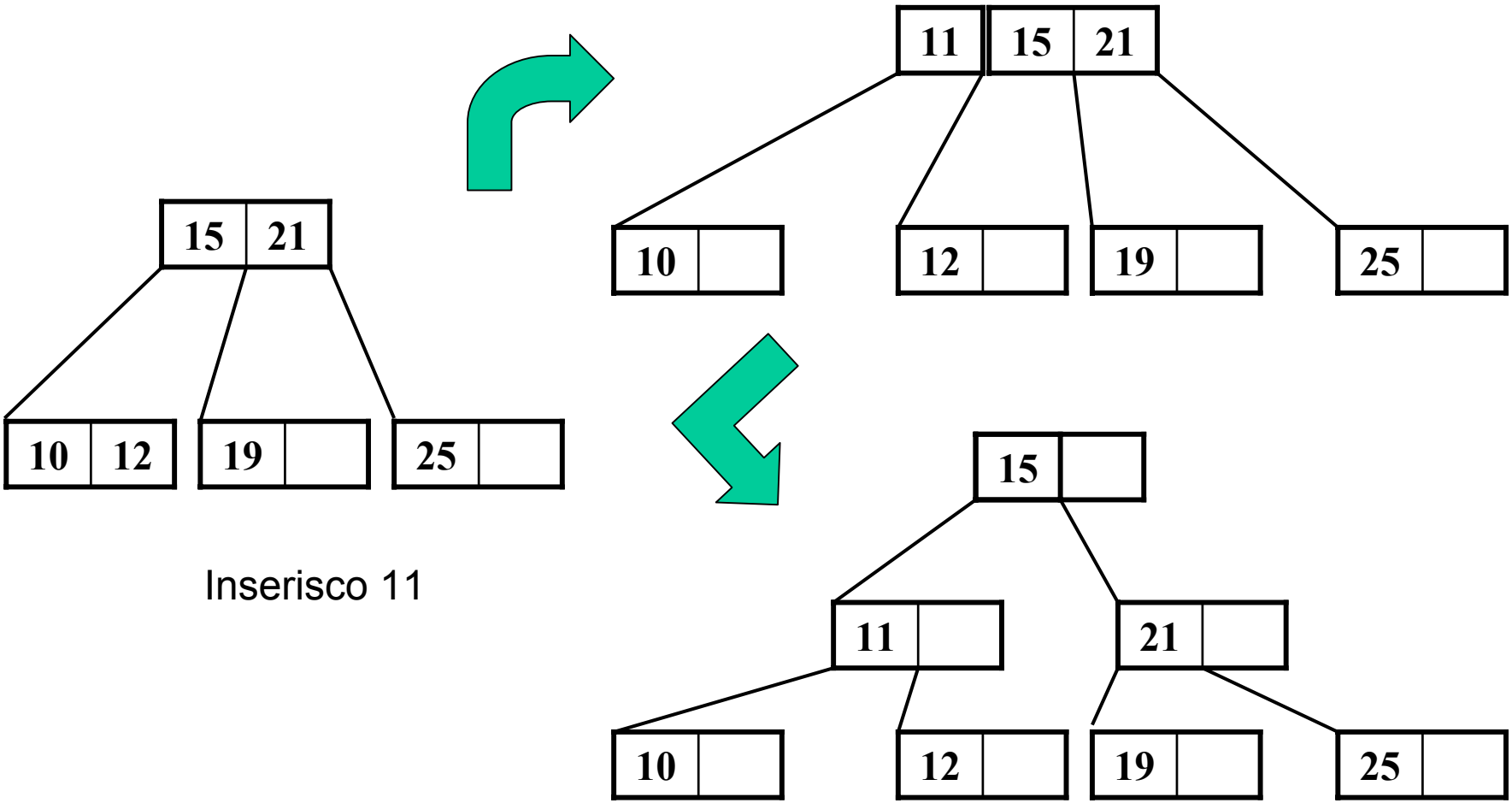


2-3 tree: splitting a catena (2)





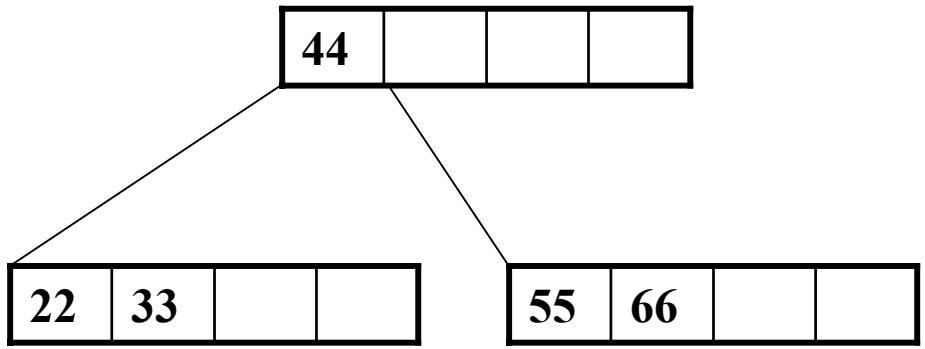
2-3 tree: splitting con aumento di livello



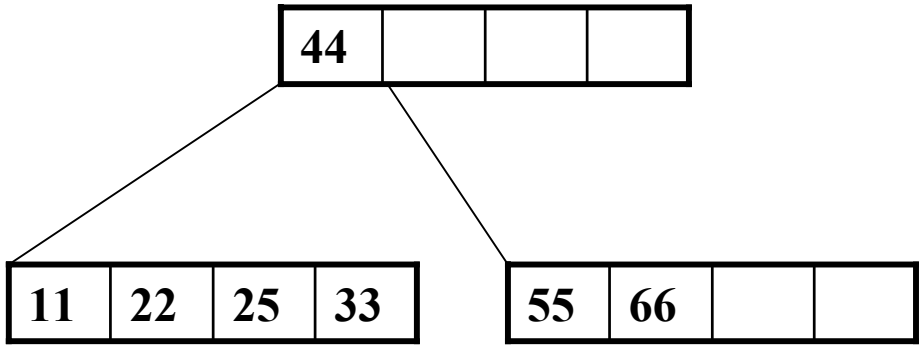
B tree: inserimento senza splitting

Il procedimento è identico ai 2-3 tree

m=5

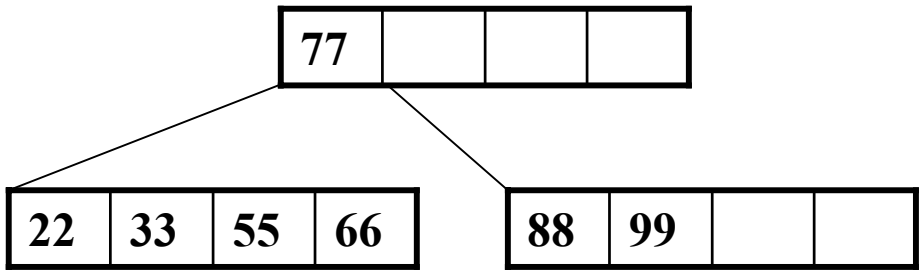


Inserisco 11, 25



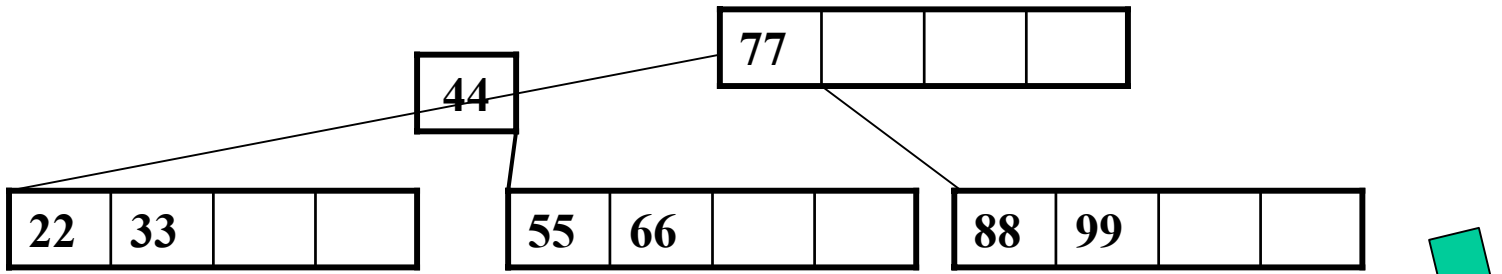
B tree: splitting

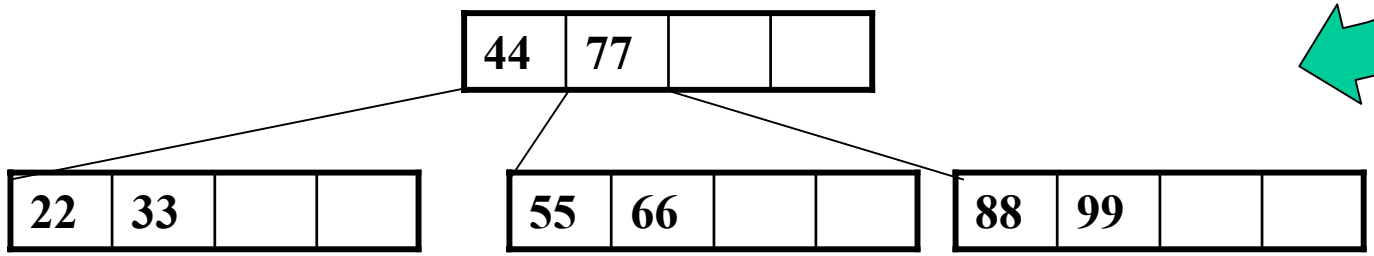
m=5



Il procedimento è identico ai 2-3 tree

Inserisco 44

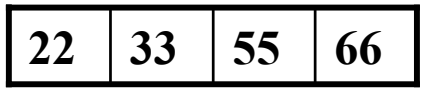




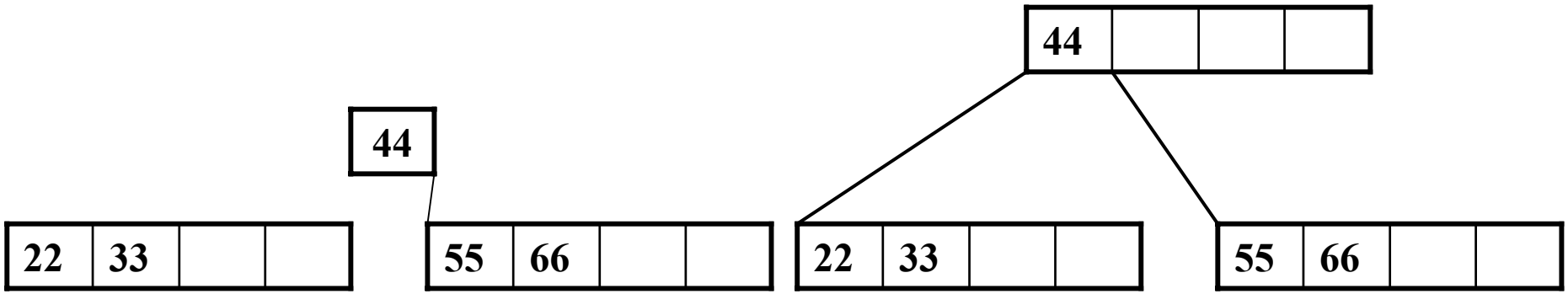
B tree: splitting con aumento di livello

Il procedimento è identico ai 2-3 tree

m=5



Inserisco 44



B tree: splitting a catena