InnoDB B+Tree Growth

Empty root

Level
0
Root

Infimum   Page 3   Supremum

Next
Record

InnoDB B+Tree Growth

Insert: 1

Level
0
Root

Infimum
Page 3
Supremum

1
B*
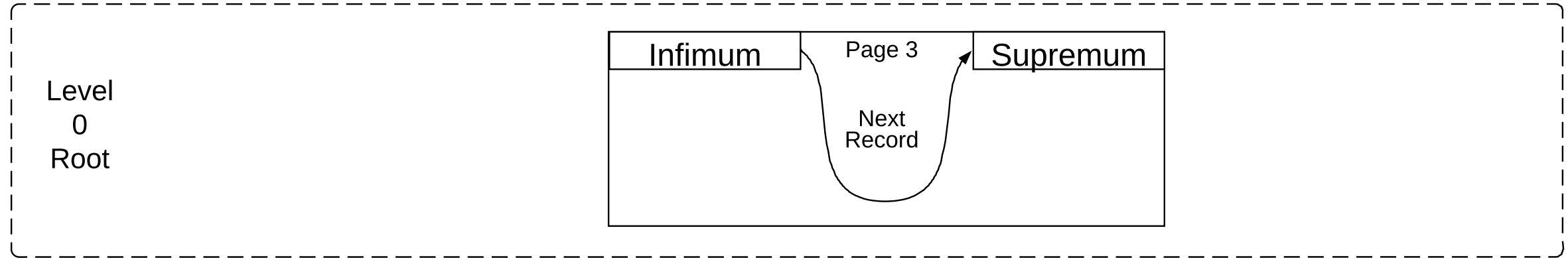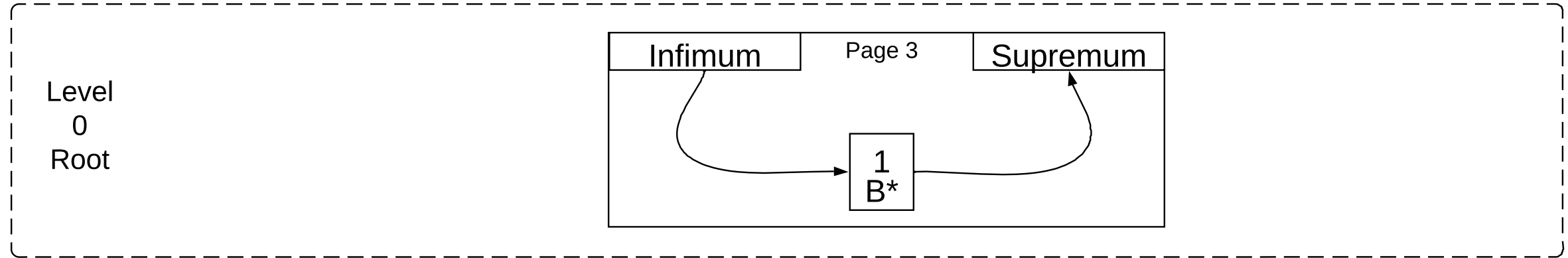
Page size is 16KB
B* is 2KB

InnoDB B+Tree Growth

Insert: 1 to 7

Level
0
Root

Page 3

| I | 1 B* | 2 B* | 3 B* | 4 B* | 5 B* | 6 B* | 7 B* | S |

InnoDB B+Tree Growth

Insert: 8

Level
1
Root

| Infimum | Page 3 | Supremum |

1
4

Level
0
Leaf

| I | Page 4 | S |

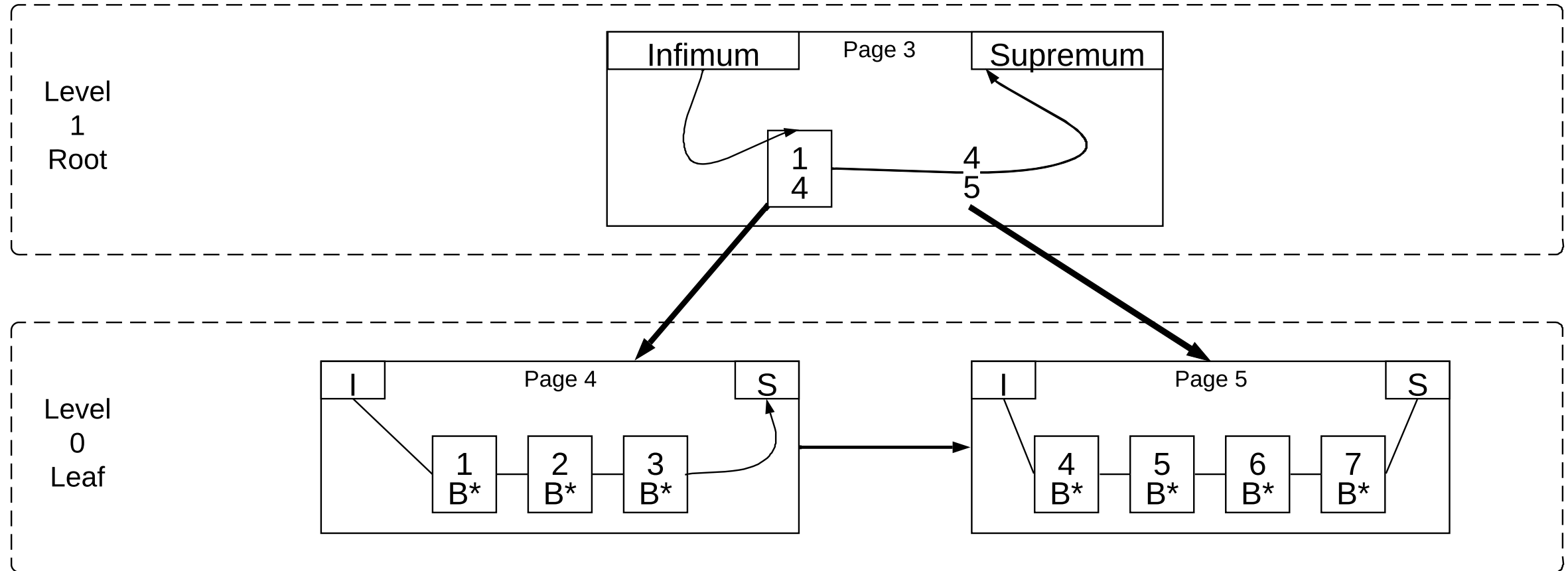| 1 B* | 2 B* | 3 B* | 4 B* | 5 B* | 6 B* | 7 B* |
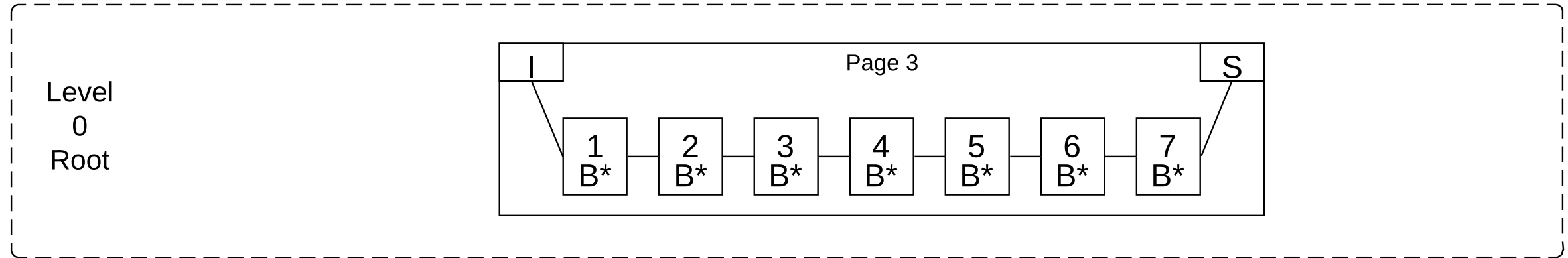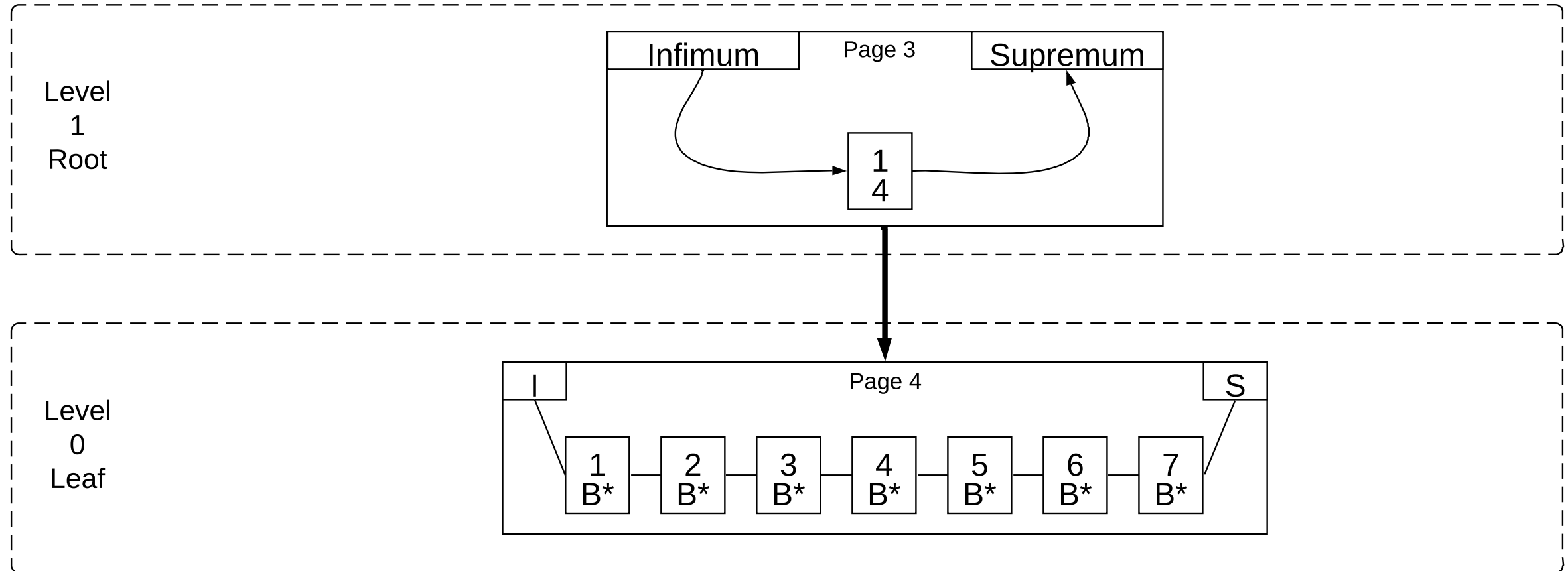
Allocate new page and link in root
Move records to new page
Split new page

InnoDB B+Tree Growth

Insert: 8 (Cont.)

Level
1
Root

Page 3

Infimum

Supremum

1
4

4
5

Level
0
Leaf

Page 4

I

S

1
B*

2
B*

3
B*

Page 5

I

S

4
B*

5
B*

6
B*

7
B*

Split at the middle of original page

InnoDB B+Tree Growth

Insert: 9 and 10

Level 1 Root

Page 3

Infimum | Supremum

| 1 4 | 4 5 |

Level 0 Leaf

Page 4

I | S

| 1 B* | 2 B* | 3 B* |

Page 5

I | S

| 4 B* | 5 B* | 6 B* | 7 B* | 8 B* | 9 B* | 10 B* |

InnoDB B+Tree Growth

Insert: 11

Level 1 Root	**Page 3** — Infimum ... Supremum 1 / 4 4 / 5 11 / 6
Level 0 Leaf	**Page 4** — I ... S 1 B* — 2 B* — 3 B* **Page 5** — I ... S 4 B* — 5 B* — 6 B* — 7 B* — 8 B* — 9 B* — 10 B* **Page 6** — I ... S 11 B*
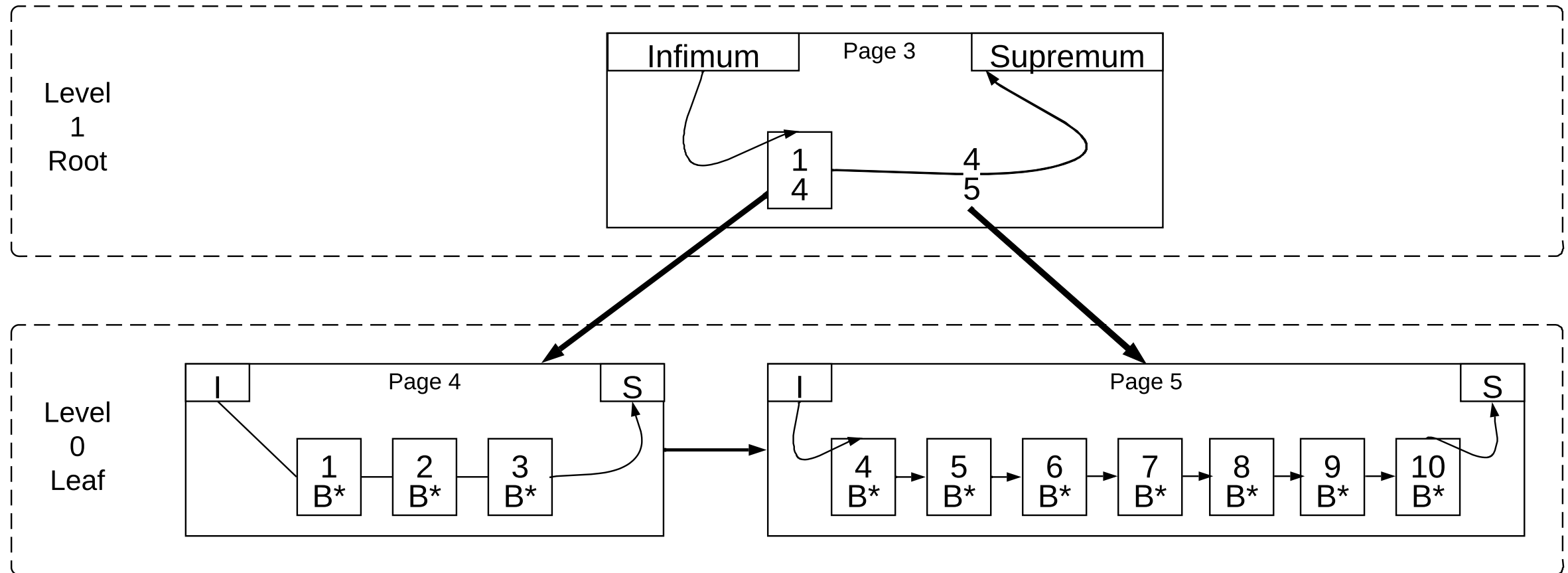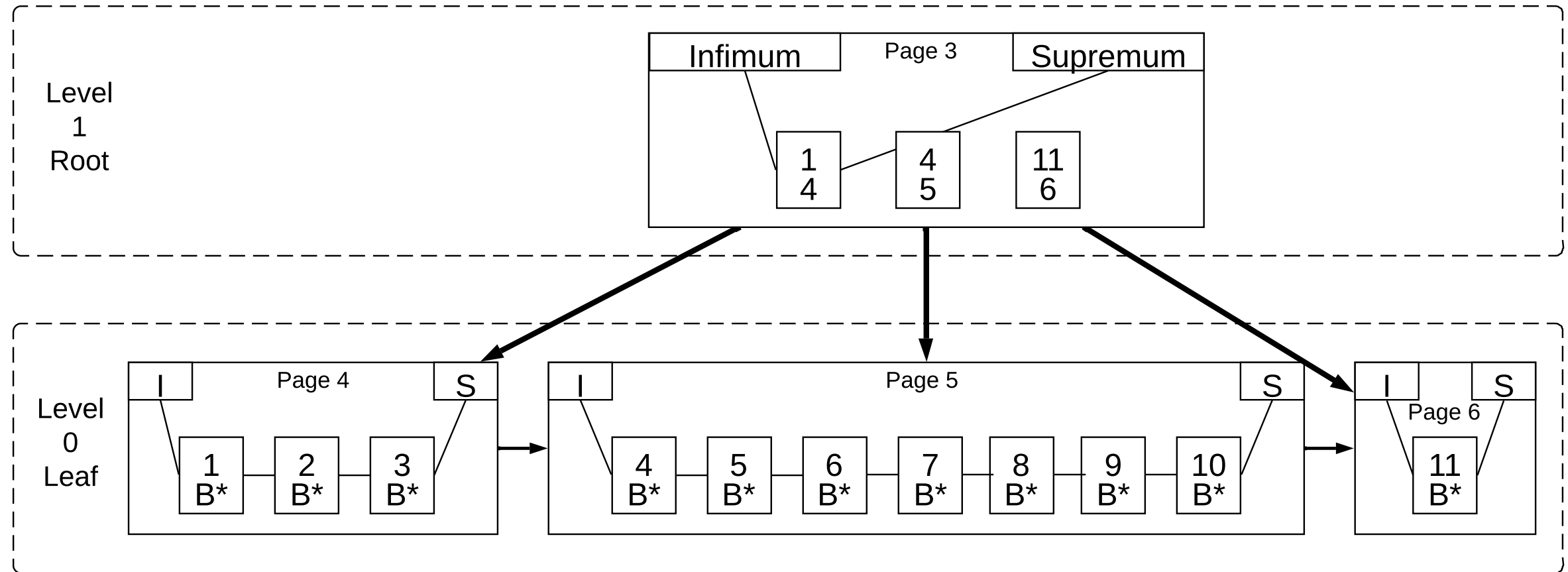
Insert leads to a split at the insertion point