**Test Case 1:**

**Input:**

1 true 2 true 3 false false true 4 false false

**Expected Output:**

1 true 2 true 4 false false true 3 false false

**Explanation:** The binary tree is:

1

/

2

/ \

3 4

The inverted binary tree should be:

1

/

2

/ \

4 3

**Test Case 2:**

**Input:**

8 true 6 true 5 true 3 false false false true 7 false false true 10 false false

**Expected Output:**

8 true 10 false false true 6 true 7 false false true 5 true 3 false false false

**Explanation:** The binary tree is:

8

/ \

6 10

/ \ /

5 3 7

The inverted binary tree should be:

8

/ \

10 6

/ \ / \

7 3 5

**Test Case 3:**

**Input:**

4 true 2 true 1 false false true 3 false false true 7 true 6 false false true 9 false false

**Expected Output:**

4 true 7 true 9 false false true 6 false false true 2 true 3 false false true 1 false false

**Explanation:** The binary tree is:

4

/ \

2 7

/ \ / \

1 3 6 9

The inverted binary tree should be:

4

/ \

7 2

/ \ / \

9 6 3 1

**Test Case 4:**

**Input:**

10 true 5 true 2 false false true 8 false false true 15 true 12 false false true 20 false false

**Expected Output:**

10 true 15 true 20 false false true 12 false false true 5 true 8 false false true 2 false false

**Explanation:** The binary tree is:

10

/ \

5 15

/ \ / \

2 8 12 20

The inverted binary tree should be:

10

/ \

15 5

/ \ / \

20 12 8 2

**Test Case 5:**

**Input:**

1 true 3 true 2 false false false true 4 false true 5 false false

**Expected Output:**

1 true 4 false true 5 false false true 3 true 2 false false false

**Explanation:** The binary tree is:

1

/ \

3 4

/ \

2 5

The inverted binary tree should be:

1

/ \

4 3

\ /

5 2