**Mirror, Mirror on the Tree: Is it Even or the free?**

Write a function **mirror\_parity()** that takes the root of a Binary Search Tree (BST) and a single node x as parameters. The function should find the mirror node corresponding to node x and return “**Even**” if the mirror node's value is even, or “**Odd**” if the value is odd. If the mirror node does not exist, return “**No Mirror Found**”.

***Only recursive solution allowed. You can use helper functions.***

| **Example of BST** | **Sample Inputs** | **Sample Outputs** | **Explanation** |
| --- | --- | --- | --- |
|  | **mirror\_parity(root, 5)** | **Odd** | Mirror of 5 = 15  15 is Odd |
| **mirror\_parity(root, 7)** | **Even** | Mirror of 7 = 12  12 is Even |
| **mirror\_parity(root, 3)** | **No Mirror Found** | No Mirror Node of 3 |

**Mirror, Mirror, multiply and see: what’s the Answer for the tree?**

Write a function **mirror\_multiply()** that takes the root of a Binary Search Tree (BST) and a single node x as parameters. The function should find the mirror node corresponding to node x and return the **multiplication of the given node’s value and its mirror node’s value** if a mirror node is found. If a mirror node does not exist, return “**No Mirror Found**”.

***Only recursive solution allowed. You can use helper functions.***

| **Example of BST** | **Sample Inputs** | **Sample Outputs** | **Explanation** |
| --- | --- | --- | --- |
|  | **mirror\_multiply(root, 5)** | **75** | Mirror of 5 = 15  5 × 15 = 75 |
| **mirror\_multiply(root, 7)** | **84** | Mirror of 7 = 12  7 × 12 = 84 |
| **mirror\_multiply(root, 3)** | **No Mirror Found** | No Mirror Node of 3 |