

```
public static int compute(int number) {  
    if (number <= 2) {  
        return 1;  
    }  
  
    return compute(number - 1) + compute(number - 2);  
}
```

The diagram illustrates the recursive call tree for the `compute` function. The nodes are colored purple, orange, and yellow, and connected by lines representing recursive calls. The tree shows the sequence of calls starting from `compute(5)` down to the base cases `compute(1)` and `compute(2)`, and then the return values being propagated back up the tree.

- Base Cases (Purple Nodes):** `compute(1)` and `compute(2)` return 1.
- Intermediate Cases (Orange Nodes):** `compute(3)` returns 2, `compute(4)` returns 3, and `compute(5)` returns 5.
- Final Result (Yellow Node):** The final result of the function call is 5.