

```
public static int compute(int value) {  
    if (value == 1) {  
        return 1;  
    }  
    return compute(value - 1) * value;  
}
```

The diagram illustrates the recursive calls for the `compute` function with `value = 5`. The nodes represent the state of the function at each call, with their coordinates corresponding to the values of `value` and the return value. The nodes are color-coded: orange for `value = 5`, yellow for `value = 4`, purple for `value = 3`, red for `value = 2`, and grey for `value = 1`. Lines connect the nodes to show the sequence of calls and returns. The orange nodes are at the top, followed by yellow, purple, red, and grey nodes at the bottom. The lines show the flow of the recursive calls and the return values being passed back up the chain.