

```
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 = 4`. It uses colored nodes and lines to show the sequence of calls and returns:

- Base Case:** A yellow node labeled `1` represents the return value from `compute(1)`.
- Return Path (Yellow Lines):** Yellow lines connect the base case to the return statements of `compute(2)`, `compute(3)`, and `compute(4)`, showing the flow of data back up the call stack.
- Call Path (Orange Lines):** Orange lines connect the return statements of `compute(2)`, `compute(3)`, and `compute(4)` to the corresponding `compute` function calls, showing the sequence of recursive calls.
- Other Calls (Purple Nodes):** Purple nodes at the top represent other recursive calls that are not part of the main sequence shown.