

```
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`. Nodes represent function calls, and lines represent the call stack and return flow.

- Base Case:** `compute(1)` is represented by a grey node.
- Recursive Calls:** `compute(2)` through `compute(5)` are represented by purple nodes.
- Return Flow:** Orange lines show the return path from `compute(1)` up to `compute(5)`.
- Intermediate Calculations:** Yellow nodes represent the intermediate results of the recursive calls: `1` (for `compute(1)`), `2` (for `compute(2)`), `6` (for `compute(3)`), and `24` (for `compute(4)`).