

```
public static int compute(int a, int b) {  
    if (b == 0) {  
        return 1;  
    }  
  
    if (b == 1) {  
        return a;  
    }  
  
    return a * compute(a, b - 1);  
}
```

The diagram illustrates the execution flow of the recursive function `compute`. It features a network of nodes (colored circles) and directed edges (lines) representing the sequence of function calls and returns. The nodes are color-coded: purple for the initial call and recursive calls, red for the base case `b == 0`, yellow for the base case `b == 1`, and orange for the final return calculation. The graph shows the function calling itself with `b - 1` until it reaches the base cases, and then returning values back up the call stack to compute the final result `a * compute(a, b - 1)`.