

```
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 recursive call stack for the `compute` function. The stack contains four frames, each represented by a colored circle. The frames are connected by lines, showing the sequence of calls and returns. The return values are indicated by the text next to each frame: `1`, `a`, `a * a`, and `a * a * a * a`.

- Frame 1 (bottom): `compute(a, 0)` returns `1`.
- Frame 2: `compute(a, 1)` returns `a`.
- Frame 3: `compute(a, 2)` returns `a * a`.
- Frame 4 (top): `compute(a, 3)` returns `a * a * a * a`.