

```
public static int compute(String s) {  
    if(s.equals("0")){  
        return 0;  
    }  
    if(s.equals("1")){  
        return 1;  
    }  
    if (s.charAt(s.length()-1) == '0'){  
        return 2 * compute(s.substring(0,s.length()-1));  
    }  
    if (s.charAt(s.length()-1) == '1'){  
        return 1 + 2 * compute(s.substring(0,s.length()-1));  
    }  
    return -1;  
}
```

The diagram illustrates the recursive calls of the `compute` function. Colored dots (purple, orange, yellow) are placed on the code lines, and lines connect them to show the flow of recursive calls and returns. The flow starts from the bottom and moves upwards through the recursive calls, eventually returning values back down the chain.