

```
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 and returns for the `compute` function. Nodes are colored circles (purple, yellow, orange, red) connected by lines of the same color. The graph shows the flow of execution, including recursive calls and returns, leading to a central black node.