

```
public static int compute(int number) {  
    if (number == 0) {  
        return 0;  
    }  
    return (number % 10) + compute((int) number/10);  
}
```

The diagram illustrates the recursive calls for the `compute` function. The nodes represent function calls, and the lines represent the return values being passed back up the call stack. The root node is `compute(1234)`. It branches into `compute(123)` and `1`. `compute(123)` branches into `compute(12)` and `3`. `compute(12)` branches into `compute(1)` and `2`. `compute(1)` branches into `0` and `1`. The final return values are propagated back up the chain: `0` from `compute(1)`, `2` from `compute(12)`, `3` from `compute(123)`, and `4` from `compute(1234)`.