

```
public static String compute(String input) {  
    String a = "";  
    String b = "";  
    for (int i = input.length() - 1; i >= 0; i--) {  
        a = input.charAt(i) + a;  
        b = b + input.charAt(i);  
    }  
    return a + b;  
}
```

The diagram illustrates a control flow graph (CFG) overlaid on the provided Java code. The nodes, represented by colored circles, correspond to specific points in the code's execution:

- Grey nodes:** Located at the start of the function, before the first curly brace, and at the end of the function, after the final curly brace.
- Purple nodes:** Located at the start of the function body, after the opening brace, and at the end of the function body, before the closing brace.
- Orange and Yellow nodes:** These nodes are clustered around the loop and the return statement, indicating the flow of the loop iterations and the final return operation.

The edges, represented by thin grey lines, show the flow of control between these nodes, including the entry into the loop, the loop body, the loop exit, and the final return statement.