

```
public static int compute(String string1, String string2) {  
    int x;  
    if (string1.length() < string2.length()) {  
        x = string1.length();  
    } else {  
        x = string2.length();  
    }  
    int result = 0;  
    for (int i = 0; i < x; i++) {  
        if (string1.charAt(i) == string2.charAt(i)) {  
            result++;  
        }  
    }  
    return result;  
}
```

The diagram illustrates the relationships between variables and expressions in the code. Nodes (colored circles) represent variables and expressions, and edges (colored lines) represent the flow of data or control flow. The nodes are colored in shades of purple, orange, and yellow. The edges are colored in shades of purple, orange, and yellow. The diagram shows the flow of data from the string lengths to the comparison loop, and the accumulation of the result.